


**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐

<b>APPLICATION FOR PERMIT TO DRILL</b>				<b>1. WELL NAME and NUMBER</b> NBU 1022-8C1CS		
<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>				<b>3. FIELD OR WILDCAT</b> NATURAL BUTTES		
<b>4. TYPE OF WELL</b> Gas Well Coalbed Methane Well: NO				<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b> NATURAL BUTTES		
<b>6. NAME OF OPERATOR</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.				<b>7. OPERATOR PHONE</b> 720 929-6587		
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217				<b>9. OPERATOR E-MAIL</b> mary.mondragon@anadarko.com		
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> UTU 0466		<b>11. MINERAL OWNERSHIP</b> FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>		<b>12. SURFACE OWNERSHIP</b> FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>		
<b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>		
<b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>		
<b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b>		<b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b> YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>		<b>19. SLANT</b> VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>		
<b>20. LOCATION OF WELL</b>	<b>FOOTAGES</b>	<b>QTR-QTR</b>	<b>SECTION</b>	<b>TOWNSHIP</b>	<b>RANGE</b>	<b>MERIDIAN</b>
<b>LOCATION AT SURFACE</b>	955 FNL 1742 FEL	NWNE	8	10.0 S	22.0 E	S
<b>Top of Uppermost Producing Zone</b>	418 FNL 2252 FWL	NENW	8	10.0 S	22.0 E	S
<b>At Total Depth</b>	418 FNL 2252 FWL	NENW	8	10.0 S	22.0 E	S
<b>21. COUNTY</b> UINTAH		<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 418		<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 454		
		<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 360		<b>26. PROPOSED DEPTH</b> MD: 9494 TVD: 9100		
<b>27. ELEVATION - GROUND LEVEL</b> 5186		<b>28. BOND NUMBER</b> WYB000291		<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> Permit #43-8496		

**ATTACHMENTS****VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES**

<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER	<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)	<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)	<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP
<b>NAME</b> Danielle Piernot	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b>	<b>PHONE</b> 720 929-6156
	<b>EMAIL</b> danielle.piernot@anadarko.com
<b>API NUMBER ASSIGNED</b> 43047506430000	<b>APPROVAL</b>  Permit Manager

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Prod	7.875	4.5	0	9494		
Pipe	Grade	Length	Weight			
	Grade I-80 Buttress	9494	11.6			

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Surf	12.25	9.625	0	2235		
Pipe	Grade	Length	Weight			
	Grade J-55 LT&C	2235	36.0			

# T10S, R22E, S.L.B.&M.

Found 1991  
Aluminum Cap,  
Pile of Stones

WEST — 40.07 (G.L.O.)  
N89°59'49"W — 2644.32' (Meas.)

S89°56'W — 39.96 (G.L.O.)  
S89°55'00"W — 2637.33' (Meas.)

N0°01'W 40.18 (G.L.O.)  
N00°00'13"W — 2652.08' (Meas.)

N0°01'E 40.14 (G.L.O.)  
N00°02'34"E — 2648.81' (Meas.)

Found 1991  
Aluminum Cap,  
Steel Post & Pile  
of Stones

Bottom  
of Hole

Found 1991  
Aluminum Cap,  
Pile of Stones.

Well Surface  
Position

Found 1991  
Aluminum Cap,  
Pile of Stones  
& Steel Post.

N00°09'22"W (Basis of Bearings)  
2646.11' (Measured)  
N0°10'W 40.09 (G.L.O.)

N00°08'53"W — 2643.03' (Meas.)  
N0°09'W 40.04 (G.L.O.)

Found 1991  
Aluminum Cap,  
Pile of Stones

Found 1991  
Aluminum Cap,  
Pile of Stones,  
Steel Fence Post

Found 1991  
Aluminum Cap,  
Pile of Stones

Found 1991  
Aluminum Cap,  
Pile of Stones

S89°53'46"W — 2646.03' (Meas.)  
S89°53'W 40.09 (G.L.O.)

S89°46'11"W — 2651.51' (Meas.)  
S89°47'W 40.18 (G.L.O.)

**WELL LOCATION:  
NBU 1022-8C1CS**

ELEV. UNGRADED GROUND = 5185.6'

8

NBU 1022-8C1CS (Surface Position)

NAD 83 LATITUDE = 39.968112° (39° 58' 05.205")  
LONGITUDE = 109.460451° (109° 27' 37.624")

NAD 27 LATITUDE = 39.968147° (39° 58' 05.330")  
LONGITUDE = 109.459767° (109° 27' 35.162")

NBU 1022-8C1CS (Bottom Hole)

NAD 83 LATITUDE = 39.969583° (39° 58' 10.499")  
LONGITUDE = 109.465054° (109° 27' 54.195")

NAD 27 LATITUDE = 39.969618° (39° 58' 10.624")  
LONGITUDE = 109.464370° (109° 27' 51.732")

## NOTES:

- ▲ = Section Corners Located
- Well footages are measured at right angles to the Section Lines.
- G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
- The Bottom of hole bears N67°27'06"W 1397.38' from the Surface Position.
- Bearings are based on Global Positioning Satellite observations.
- Basis of elevation is Tri-Sta "Two Water" located in the NW ¼ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

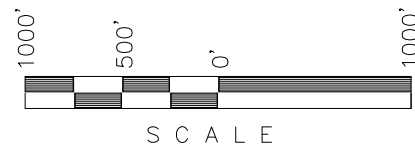
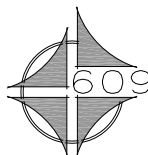
**Kerr-McGee  
Oil & Gas Onshore, LP**

1099 18th Street — Denver, Colorado 80202

**NBU 1022-8C1CS  
WELL PLAT**

418' FNL, 2252' FWL (Bottom Hole)  
NE ¼ NW ¼ OF SECTION 8, T10S, R22E,  
S.L.B.&M. UTAH COUNTY, UTAH.

CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182



## SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR  
REGISTRATION NO. 362251  
STATE OF UTAH

**TIMBERLINE**

(435) 789-1365

ENGINEERING & LAND SURVEYING, INC.

38 WEST 100 NORTH — VERNAL, UTAH 84078

DATE SURVEYED: 09-18-08	SURVEYED BY: M.S.B.	SHEET <b>1</b> OF 13
DATE DRAWN: 10-03-08	DRAWN BY: M.W.W.	
SCALE: 1" = 1000'	Date Last Revised: 01-21-09	



'APIWellNo:43047506430000'



Project: Uintah County, UT NAD27  
Site: NBU 1022-8B Pad  
Well: NBU 1022-8C1CS  
Wellbore: OH  
Design: Plan #1

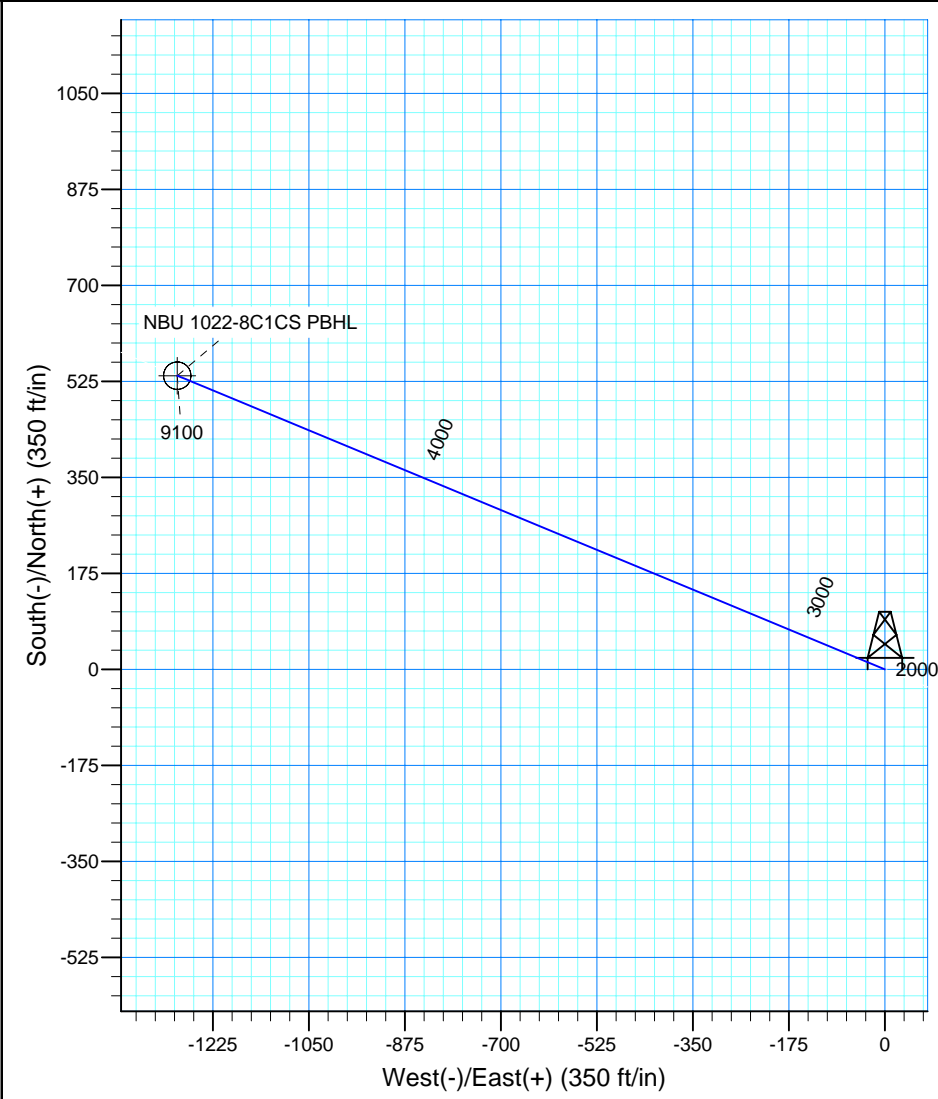
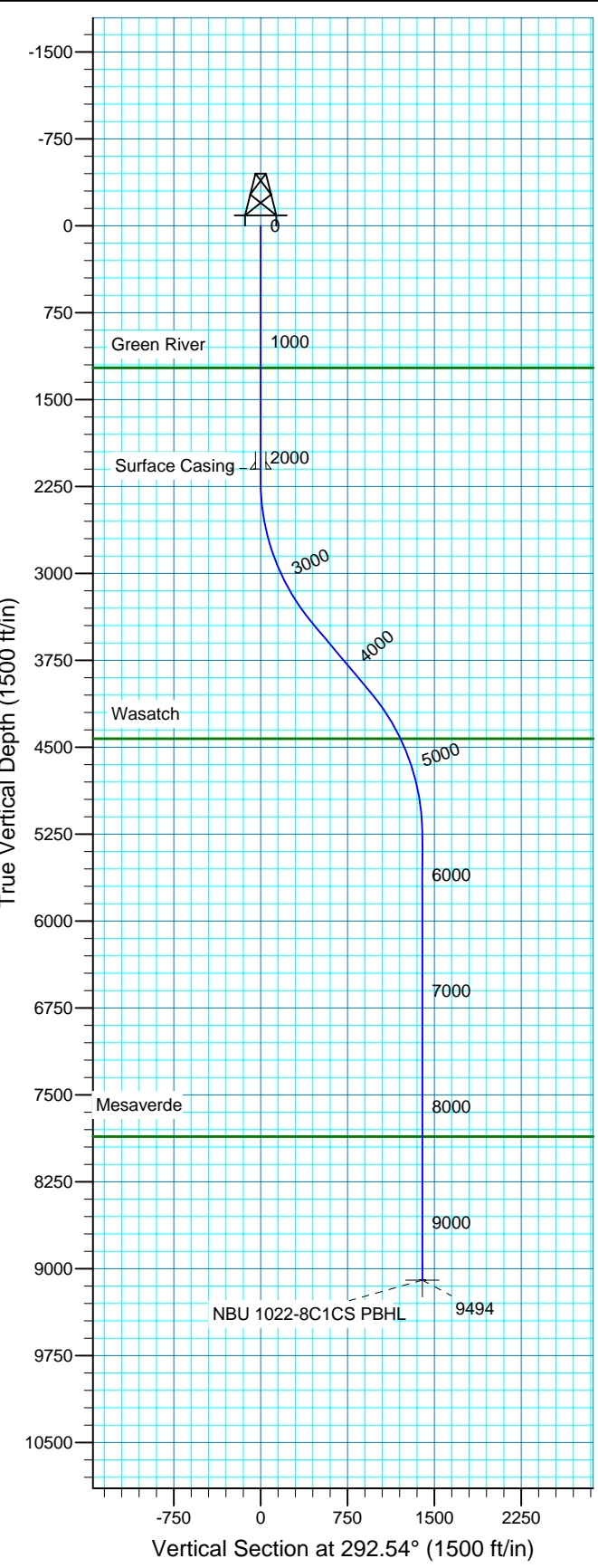
# Kerr McGee Oil and Gas Onshore LP

Azimuths to True North  
Magnetic North: 11.35°

Magnetic Field  
Strength: 52583.5snT  
Dip Angle: 65.92°  
Date: 1/7/2009  
Model: IGRF2005-10

## WELL DETAILS: NBU 1022-8C1CS

Ground Level: GL 5183' & RKB 18' @ 5201.00ft					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	601965.72	2571777.67	39° 58' 5.330 N	109° 27' 35.160 W



FORMATION TOP DETAILS			Plan: Plan #1 (NBU 1022-8C1CS/OH)	
TVDPath	MDPath	Formation	Created By: Laura Turner	Date: 2009-01-07
1226.00	1226.00	Green River	PROJECT DETAILS: Uintah County, UT NAD27	
4427.00	4793.09	Wasatch		
7861.00	8255.48	Mesaverde		
			Geodetic System: US State Plane 1927 (Exact solution)	
			Datum: NAD 1927 (NADCON CONUS)	
			Ellipsoid: Clarke 1866	
			Zone: Utah Central 4302	
			System Datum: Mean Sea Level	
			Local North: True	

SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00		
3533.33	40.00	292.54	3427.63	171.25	-412.70	3.00	292.54	446.82		
4315.88	40.00	292.54	4027.10	364.03	-877.30	0.00	0.00	949.83		
5649.21	0.00	0.00	5254.73	535.27	-1290.01	3.00	180.00	1396.65		
9494.48	0.00	0.00	9100.00	535.27	-1290.01	0.00	0.00	1396.65	NBU 1022-8C1CS PBHL	

# **Kerr McGee Oil and Gas Onshore LP**

**Uintah County, UT NAD27  
NBU 1022-8B Pad  
NBU 1022-8C1CS  
OH**

**Plan: Plan #1**

## **Standard Planning Report**

**07 January, 2009**

# Scientific Drilling

## Planning Report

<b>Database:</b>	EDM2003.16 MultiuserDB	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-8C1CS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5183' & RKB 18' @ 5201.00ft
<b>Project:</b>	Uintah County, UT NAD27	<b>MD Reference:</b>	GL 5183' & RKB 18' @ 5201.00ft
<b>Site:</b>	NBU 1022-8B Pad	<b>North Reference:</b>	True
<b>Well:</b>	NBU 1022-8C1CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

<b>Project</b>	Uintah County, UT NAD27		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Utah Central 4302		

<b>Site</b>	NBU 1022-8B Pad, Sec 8 T10S R21E		
<b>Site Position:</b>		<b>Northing:</b>	602,016.99ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,571,762.48ft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	in
		<b>Latitude:</b>	39° 58' 5.840 N
		<b>Longitude:</b>	109° 27' 35.340 W
		<b>Grid Convergence:</b>	1.31 °

<b>Well</b>	NBU 1022-8C1CS, 955' FNL 1742' FEL		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.00 ft		<b>Wellhead Elevation:</b>
			<b>Latitude:</b>
			<b>Longitude:</b>
			<b>Ground Level:</b>

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2005-10	1/7/2009	11.35	65.92	52,584

<b>Design</b>	Plan #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	292.54

<b>Plan Sections</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,533.33	40.00	292.54	3,427.63	171.25	-412.70	3.00	3.00	0.00	292.54	
4,315.88	40.00	292.54	4,027.10	364.03	-877.30	0.00	0.00	0.00	0.00	
5,649.21	0.00	0.00	5,254.73	535.27	-1,290.01	3.00	-3.00	0.00	180.00	
9,494.48	0.00	0.00	9,100.00	535.27	-1,290.01	0.00	0.00	0.00	0.00	NBU 1022-8C1CS I

# Scientific Drilling

## Planning Report

<b>Database:</b>	EDM2003.16 MultiuserDB	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-8C1CS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5183' & RKB 18' @ 5201.00ft
<b>Project:</b>	Uintah County, UT NAD27	<b>MD Reference:</b>	GL 5183' & RKB 18' @ 5201.00ft
<b>Site:</b>	NBU 1022-8B Pad	<b>North Reference:</b>	True
<b>Well:</b>	NBU 1022-8C1CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,226.00	0.00	0.00	1,226.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Green River</b>									
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Surface Casing</b>									
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	3.00	292.54	2,299.95	1.00	-2.42	2.62	3.00	3.00	0.00
2,400.00	6.00	292.54	2,399.63	4.01	-9.66	10.46	3.00	3.00	0.00
2,500.00	9.00	292.54	2,498.77	9.01	-21.72	23.51	3.00	3.00	0.00
2,600.00	12.00	292.54	2,597.08	16.00	-38.55	41.74	3.00	3.00	0.00
2,700.00	15.00	292.54	2,694.31	24.94	-60.11	65.08	3.00	3.00	0.00
2,800.00	18.00	292.54	2,790.18	35.82	-86.34	93.48	3.00	3.00	0.00
2,900.00	21.00	292.54	2,884.43	48.62	-117.17	126.85	3.00	3.00	0.00
3,000.00	24.00	292.54	2,976.81	63.28	-152.51	165.12	3.00	3.00	0.00
3,100.00	27.00	292.54	3,067.06	79.78	-192.27	208.16	3.00	3.00	0.00
3,200.00	30.00	292.54	3,154.93	98.06	-236.34	255.87	3.00	3.00	0.00
3,300.00	33.00	292.54	3,240.18	118.09	-284.59	308.12	3.00	3.00	0.00
3,400.00	36.00	292.54	3,322.59	139.79	-336.90	364.75	3.00	3.00	0.00
3,500.00	39.00	292.54	3,401.91	163.12	-393.12	425.62	3.00	3.00	0.00
3,533.33	40.00	292.54	3,427.63	171.25	-412.70	446.82	3.00	3.00	0.00
3,600.00	40.00	292.54	3,478.70	187.67	-452.28	489.67	0.00	0.00	0.00
3,700.00	40.00	292.54	3,555.31	212.30	-511.66	553.95	0.00	0.00	0.00
3,800.00	40.00	292.54	3,631.91	236.94	-571.03	618.23	0.00	0.00	0.00
3,900.00	40.00	292.54	3,708.52	261.57	-630.40	682.51	0.00	0.00	0.00
4,000.00	40.00	292.54	3,785.12	286.21	-689.77	746.79	0.00	0.00	0.00
4,100.00	40.00	292.54	3,861.73	310.84	-749.14	811.07	0.00	0.00	0.00
4,200.00	40.00	292.54	3,938.33	335.48	-808.51	875.35	0.00	0.00	0.00
4,300.00	40.00	292.54	4,014.93	360.11	-867.88	939.63	0.00	0.00	0.00
4,315.88	40.00	292.54	4,027.10	364.03	-877.30	949.83	0.00	0.00	0.00
4,400.00	37.48	292.54	4,092.71	384.20	-925.92	1,002.47	3.00	-3.00	0.00
4,500.00	34.48	292.54	4,173.63	406.71	-980.18	1,061.21	3.00	-3.00	0.00
4,600.00	31.48	292.54	4,257.51	427.57	-1,030.44	1,115.63	3.00	-3.00	0.00
4,700.00	28.48	292.54	4,344.12	446.72	-1,076.59	1,165.59	3.00	-3.00	0.00

# Scientific Drilling

## Planning Report

<b>Database:</b>	EDM2003.16 MultiuserDB	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-8C1CS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5183' & RKB 18' @ 5201.00ft
<b>Project:</b>	Uintah County, UT NAD27	<b>MD Reference:</b>	GL 5183' & RKB 18' @ 5201.00ft
<b>Site:</b>	NBU 1022-8B Pad	<b>North Reference:</b>	True
<b>Well:</b>	NBU 1022-8C1CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,793.09	25.68	292.54	4,427.00	462.96	-1,115.73	1,207.96	3.00	-3.00	0.00
<b>Wasatch</b>									
4,800.00	25.48	292.54	4,433.23	464.10	-1,118.48	1,210.94	3.00	-3.00	0.00
4,900.00	22.48	292.54	4,524.59	479.67	-1,156.01	1,251.58	3.00	-3.00	0.00
5,000.00	19.48	292.54	4,617.95	493.39	-1,189.07	1,287.37	3.00	-3.00	0.00
5,100.00	16.48	292.54	4,713.06	505.22	-1,217.57	1,318.23	3.00	-3.00	0.00
5,200.00	13.48	292.54	4,809.65	515.12	-1,241.44	1,344.07	3.00	-3.00	0.00
5,300.00	10.48	292.54	4,907.46	523.07	-1,260.60	1,364.82	3.00	-3.00	0.00
5,400.00	7.48	292.54	5,006.23	529.05	-1,275.01	1,380.42	3.00	-3.00	0.00
5,500.00	4.48	292.54	5,105.67	533.04	-1,284.63	1,390.83	3.00	-3.00	0.00
5,600.00	1.48	292.54	5,205.53	535.03	-1,289.42	1,396.02	3.00	-3.00	0.00
5,649.21	0.00	0.00	5,254.73	535.27	-1,290.01	1,396.65	3.00	-3.00	0.00
5,700.00	0.00	0.00	5,305.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
5,800.00	0.00	0.00	5,405.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
5,900.00	0.00	0.00	5,505.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
6,000.00	0.00	0.00	5,605.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
6,100.00	0.00	0.00	5,705.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
6,200.00	0.00	0.00	5,805.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
6,300.00	0.00	0.00	5,905.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
6,400.00	0.00	0.00	6,005.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
6,500.00	0.00	0.00	6,105.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
6,600.00	0.00	0.00	6,205.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
6,700.00	0.00	0.00	6,305.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
6,800.00	0.00	0.00	6,405.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
6,900.00	0.00	0.00	6,505.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
7,000.00	0.00	0.00	6,605.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
7,100.00	0.00	0.00	6,705.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
7,200.00	0.00	0.00	6,805.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
7,300.00	0.00	0.00	6,905.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
7,400.00	0.00	0.00	7,005.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
7,500.00	0.00	0.00	7,105.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
7,600.00	0.00	0.00	7,205.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
7,700.00	0.00	0.00	7,305.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
7,800.00	0.00	0.00	7,405.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
7,900.00	0.00	0.00	7,505.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
8,000.00	0.00	0.00	7,605.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
8,100.00	0.00	0.00	7,705.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
8,200.00	0.00	0.00	7,805.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
8,255.48	0.00	0.00	7,861.00	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
<b>Mesaverde</b>									
8,300.00	0.00	0.00	7,905.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
8,400.00	0.00	0.00	8,005.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
8,500.00	0.00	0.00	8,105.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
8,600.00	0.00	0.00	8,205.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
8,700.00	0.00	0.00	8,305.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
8,800.00	0.00	0.00	8,405.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
8,900.00	0.00	0.00	8,505.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
9,000.00	0.00	0.00	8,605.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
9,100.00	0.00	0.00	8,705.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
9,200.00	0.00	0.00	8,805.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
9,300.00	0.00	0.00	8,905.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
9,400.00	0.00	0.00	9,005.52	535.27	-1,290.01	1,396.65	0.00	0.00	0.00
9,494.48	0.00	0.00	9,100.00	535.27	-1,290.01	1,396.65	0.00	0.00	0.00

# Scientific Drilling

## Planning Report

<b>Database:</b>	EDM2003.16 MultiuserDB	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-8C1CS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5183' & RKB 18' @ 5201.00ft
<b>Project:</b>	Uintah County, UT NAD27	<b>MD Reference:</b>	GL 5183' & RKB 18' @ 5201.00ft
<b>Site:</b>	NBU 1022-8B Pad	<b>North Reference:</b>	True
<b>Well:</b>	NBU 1022-8C1CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
NBU 1022-8C1CS PBHL									

Targets									
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude
NBU 1022-8C1CS PB	- plan hits target center	0.00	0.00	9,100.00	535.27	-1,290.01	602,471.43	2,570,475.79	39° 58' 10.620 N
	- Circle (radius 25.00)								109° 27' 51.730 W

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
2,100.00	2,100.00	Surface Casing	9.625	13.500	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,226.00	1,226.00	Green River		0.00		
4,793.09	4,427.00	Wasatch		0.00		
8,255.48	7,861.00	Mesaverde		0.00		

**NBU 1022-8C1CS**

Pad: NBU 1022-8B

Surface: 955' FNL 1,742' FEL (NW/4NE/4)

BHL: 418' FNL 2,252' FWL (NE/4NW/4)

Sec. 8 T10S R22E

Uintah, Utah

Mineral Lease: UTU 0466

**ONSHORE ORDER NO. 1**

***DRILLING PROGRAM***

1. – 2. **Estimated Tops of Important Geologic Markers:**  
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 – Surface	
Green River	1,226'	
Birds Nest	1,573'	Water
Mahogany	2,032'	Water
Wasatch	4,427'	Gas
Mesaverde	6,955'	Gas
MVU2	7,861'	Gas
MVL1	8,447'	Gas
TVD	9,100'	
TD	9,494'	

3. **Pressure Control Equipment** (Schematic Attached)

*Please refer to the attached Drilling Program.*

4. **Proposed Casing & Cementing Program:**

*Please refer to the attached Drilling Program.*

5. **Drilling Fluids Program:**

*Please refer to the attached Drilling Program.*

6. **Evaluation Program:**

*Please refer to the attached Drilling Program.*

7. **Abnormal Conditions:**

Maximum anticipated bottomhole pressure calculated at 9,100' TD, approximately equals 5,433 psi (calculated at 0.60 psi/foot).

Maximum anticipated surface pressure equals approximately 3,431 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

8. **Anticipated Starting Dates:**

*Drilling is planned to commence immediately upon approval of this application.*

9. **Variances:**

*Please refer to the attached Drilling Program.*

*Onshore Order #2 – Air Drilling Variance*

*Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2*

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

*This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.*

*The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.*

*More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.*

***Background***

*In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.*



*Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.*

*The air rig is then mobilized to drill the surface casing hole by drilling a 12-1/4 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.*

*KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.*

#### ***Variance for BOPE Requirements***

*The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.*

#### ***Variance for Mud Material Requirements***

*Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.*

#### ***Variance for Special Drilling Operation (surface equipment placement) Requirements***

*Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.*

*Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.*

*Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.*

*Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.*

#### ***Variance for FIT Requirements***

*KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). The air rig operation utilizes a 5M BOPE when drilling. This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.*

#### ***Conclusion***

*The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.*

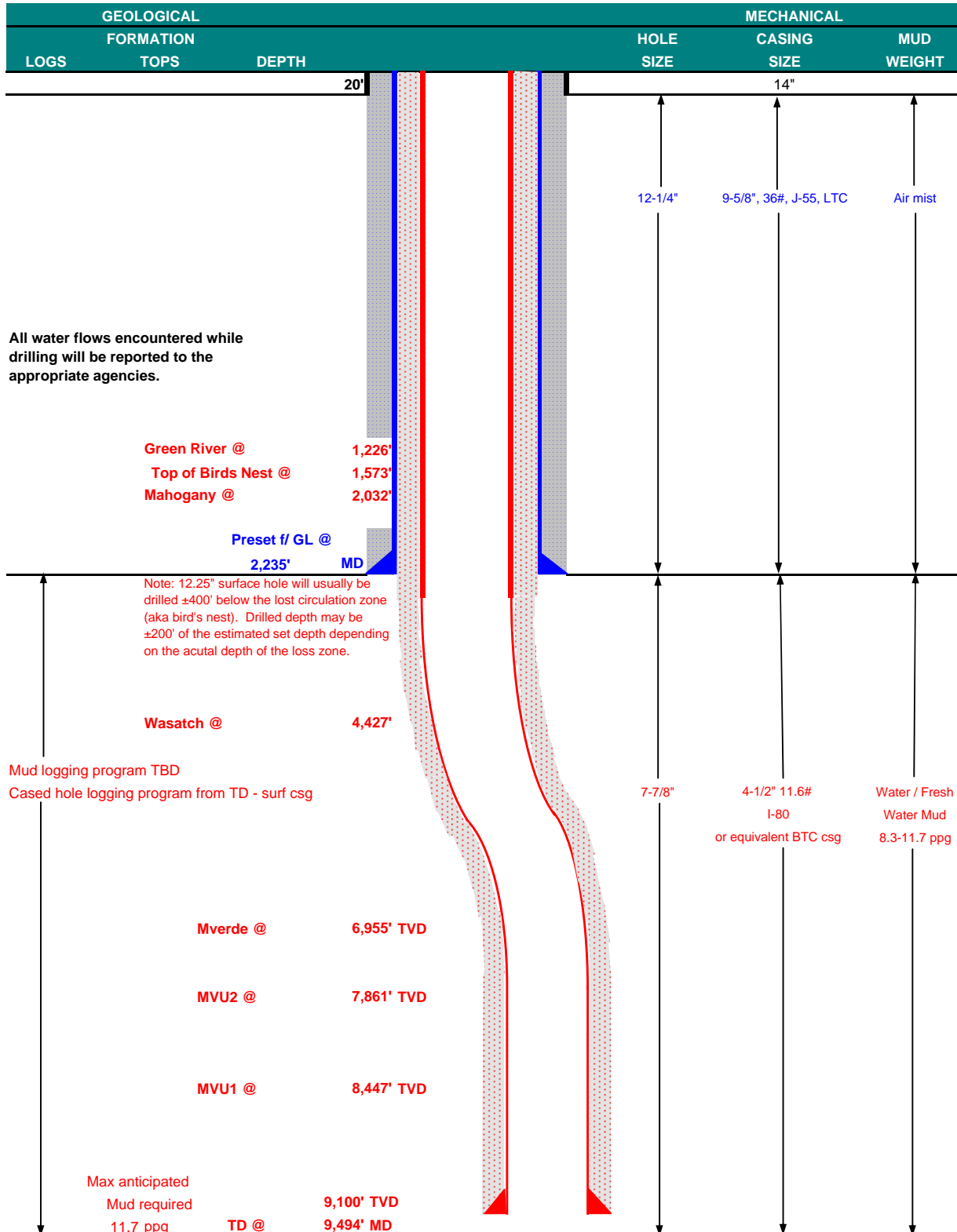
#### **10. Other Information:**

*Please refer to the attached Drilling Program.*



## KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP					DATE	August 17, 2009	
WELL NAME	NBU 1022-8C1CS					TD	9,100'	TVD 9,494' MD
FIELD	Natural Buttes		COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION 5,183'	
SURFACE LOCATION	NW/4 NE/4	955' FNL	1,742' FEL	Sec 8	T 10S	R 22E		
	Latitude: 39.968112		Longitude: -109.460451		NAD 83			
BTM HOLE LOCATION	NE/4 NW/4	418' FNL	2,252' FWL	Sec 8	T 10S	R 22E		
	Latitude: 39.969583		Longitude: -109.465054		NAD 83			
OBJECTIVE ZONE(S)	Wasatch/Mesaverde							
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), BLM (Surface), Tri-County Health Dept.							





# KERR-McGEE OIL & GAS ONSHORE LP

## DRILLING PROGRAM

### CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'				3,520	2,020	453,000
SURFACE	9-5/8"	0 to 2,235	36.00	J-55	LTC	0.95	1.93	7.17
						7,780	6,350	278,000
PRODUCTION	4-1/2"	0 to 9,494	11.60	I-80	BTC	2.20	1.15	2.89

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 11.7 ppg)

0.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MASP 3,431 psi**

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

(Burst Assumptions: TD = 11.7 ppg)

0.6 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MABHP 5,433 psi**

### CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	215	60%	15.60	1.18
			+ 0.25 pps flocele				
Option 1	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	380	0%	15.60	1.18
			+ 2% CaCl + 0.25 pps flocele				
			Premium cmt + 2% CaCl				
SURFACE		<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>					
Option 2	LEAD	1,735'	65/35 Poz + 6% Gel + 10 pps gilsonite	410	35%	12.60	1.81
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	180	35%	15.60	1.18
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTION	LEAD	3,924'	Premium Lite II + 3% KCl + 0.25 pps	370	40%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	5,570'	50/50 Poz/G + 10% salt + 2% gel	1,360	40%	14.30	1.31
			+ 0.1% R-3				

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

### FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

### ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

John Huycke / Emile Goodwin

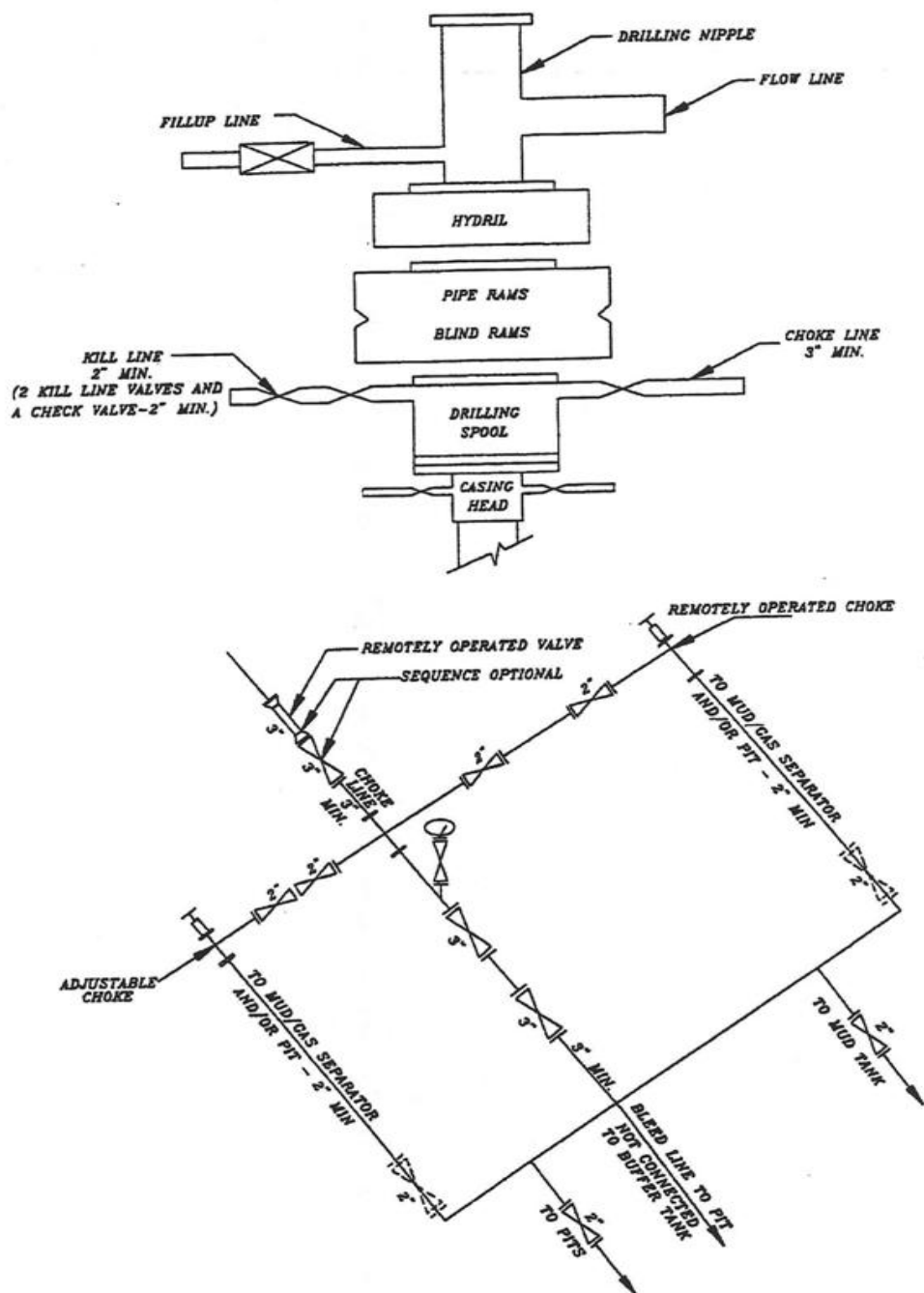
DATE:

DRILLING SUPERINTENDENT:

John Merkel / Lovel Young

DATE:

# EXHIBIT A NBU 1022-8C1CS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

# WELL PAD INTERFERENCE PLAT

## DIRECTIONAL PAD – NBU 343

### SURFACE POSITION FOOTAGES:

NBU 1022-8C1CS  
955' FNL & 1742' FEL  
NBU 1022-8C1AS  
943' FNL & 1725' FEL  
NBU 1022-8B1DS  
931' FNL & 1709' FEL  
NBU 1022-8B4AS  
919' FNL & 1693' FEL

### BOTTOM HOLE FOOTAGES:

NBU 1022-8C1CS  
418' FNL & 2252' FWL  
NBU 1022-8C1AS  
102' FNL & 2415' FWL  
NBU 1022-8B1DS  
367' FNL & 1518' FEL  
NBU 1022-8B4AS  
744' FNL & 1518' FEL

BASIS OF BEARINGS IS THE EAST LINE OF THE NE 1/4 OF SECTION 8, T10S, R22E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°09'22"W.

LATITUDE & LONGITUDE Bottom Hole – (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
1022-8C1CS	39°58'10.499" 39.969583°	109°27'54.195" 109.465054°
1022-8C1AS	39°58'13.621" 39.970450°	109°27'52.103" 109.464473°
1022-8B1DS	39°58'11.019" 39.969727°	109°27'34.772" 109.459659°
1022-8B4AS	39°58'07.294" 39.968693°	109°27'34.759" 109.459655°

LATITUDE & LONGITUDE Bottom Hole – (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
1022-8C1CS	39°58'10.624" 39.969618°	109°27'51.732" 109.464370°
1022-8C1AS	39°58'13.746" 39.970485°	109°27'49.640" 109.463789°
1022-8B1DS	39°58'11.143" 39.969762°	109°27'32.310" 109.458975°
1022-8B4AS	39°58'07.419" 39.968727°	109°27'32.297" 109.458971°

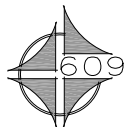
RELATIVE COORDINATES From Surface Position to Bottom Hole		
WELL	NORTH	EAST
1022-8C1CS	536'	-1,291'
1022-8C1AS	840'	-1,144'
1022-8B1DS	564'	190'
1022-8B4AS	175'	175'

LATITUDE & LONGITUDE Surface Position – (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
1022-8C1CS	39°58'05.205" 39.968112°	109°27'37.624" 109.460451°
1022-8C1AS	39°58'05.324" 39.968145°	109°27'37.417" 109.460393°
1022-8B1DS	39°58'05.442" 39.968178°	109°27'37.210" 109.460336°
1022-8B4AS	39°58'05.561" 39.968212°	109°27'37.006" 109.460279°
Existing Well NBU 343	39°58'05.719" 39.968255°	109°27'37.803" 109.460501°

LATITUDE & LONGITUDE Surface Position – (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
1022-8C1CS	39°58'05.330" 39.968147°	109°27'35.162" 109.459767°
1022-8C1AS	39°58'05.448" 39.968180°	109°27'34.954" 109.459710°
1022-8B1DS	39°58'05.566" 39.968213°	109°27'34.748" 109.459652°
1022-8B4AS	39°58'05.686" 39.968246°	109°27'34.544" 109.459596°
Existing Well NBU 343	39°58'05.844" 39.968290°	109°27'35.341" 109.459817°

**Kerr-McGee**  
**Oil & Gas Onshore, LP**  
1099 18th Street – Denver, Colorado 80202

NBU 1022-8C1CS, NBU 1022-8C1AS,  
NBU 1022-8B1DS & NBU 1022-8B4AS  
LOCATED IN SECTION 8, T10S, R22E,  
S.L.B.&M. UTAH COUNTY, UTAH.

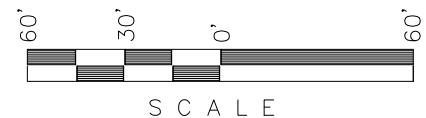


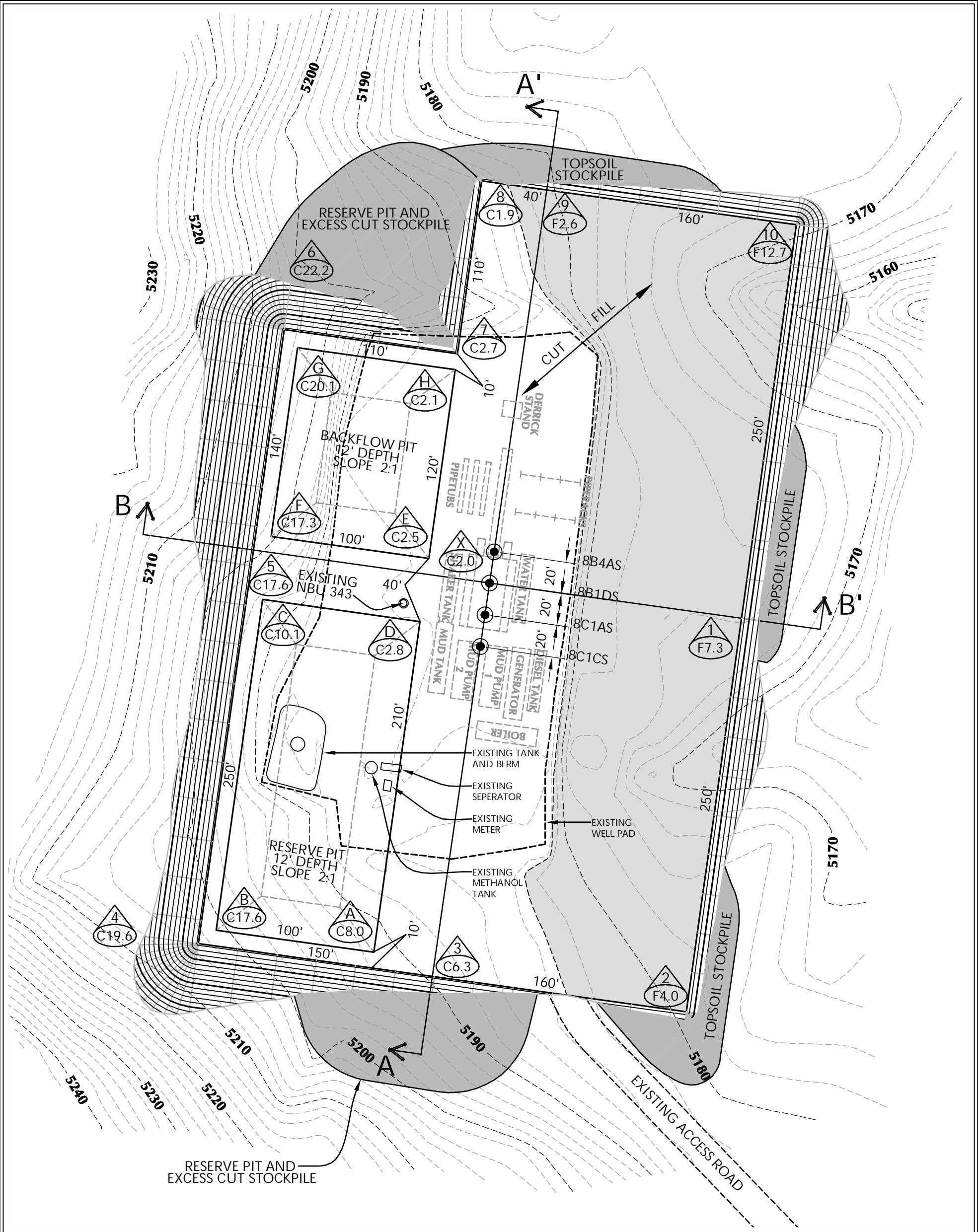
CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

DATE SURVEYED: 09-18-08	SURVEYED BY: M.S.B.
DATE DRAWN: 10-03-08	DRAWN BY: M.W.W.
	REVISED: 01-21-09

**Timberline** (435) 789-1365  
Engineering & Land Surveying, Inc.  
38 WEST 100 NORTH VERNAL, UTAH 84078

SHEET  
**5**  
OF 13





KERR-MCGEE OIL & GAS  
ONSHORE L.P.  
1099 18th Street - Denver, Colorado 80202

WELL PAD - LOCATION LAYOUT  
NBU 1022-8C1CS, NBU 1022-8C1AS,  
NBU 1022-8B1DS, NBU 1022-8B4AS  
LOCATED IN SECTION 8, T.10S., R.22E.  
S.L.B.&M., UINTAH COUNTY, UTAH



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

Scale: 1"=60'	Date: 2/5/09	SHEET NO: 6
REVISED:	BY DATE	6 OF 13

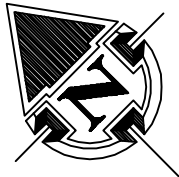
WELL PAD NBU 343 QUANTITIES

EXISTING GRADE @ CENTER OF PAD = 5,185.3'  
FINISHED GRADE ELEVATION = 5,183.3'  
CUT SLOPES = 1.5:1  
FILL SLOPES = 1.5:1

TOTAL CUT FOR WELL PAD = 20,772 C.Y.  
TOTAL FILL FOR WELL PAD = 20,470 C.Y.  
TOPSOIL @ 6" DEPTH = 2,343 C.Y.  
EXCESS MATERIAL = 302 C.Y.  
TOTAL DISTURBANCE = 4.07 ACRES  
SHRINKAGE FACTOR = 1.10  
SWELL FACTOR = 1.00  
RESERVE PIT CAPACITY (2' OF FREEBOARD)  
+/- 23,600 BARRELS  
RESERVE PIT VOLUME  
+/- 6,370 CY  
BACKFLOW PIT CAPACITY (2' OF FREEBOARD)  
+/- 12,050 BARRELS  
BACKFLOW PIT VOLUME  
+/- 3,330 CY

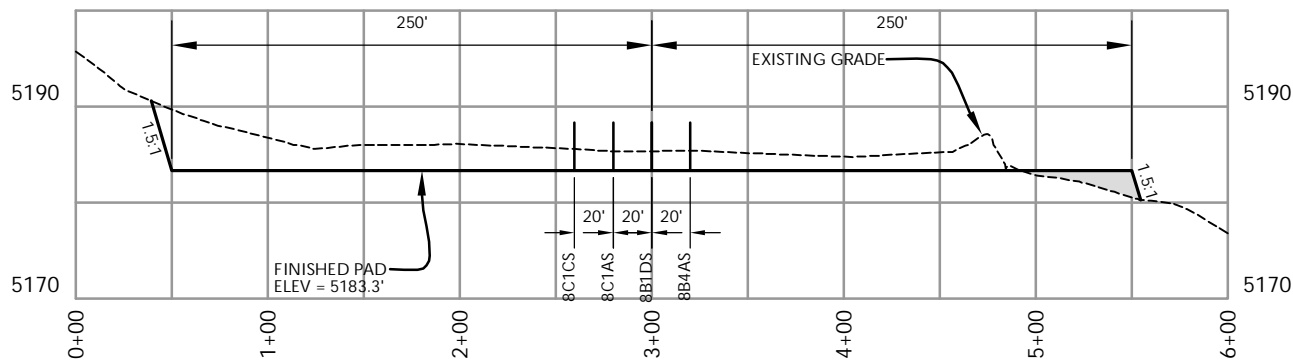
WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)

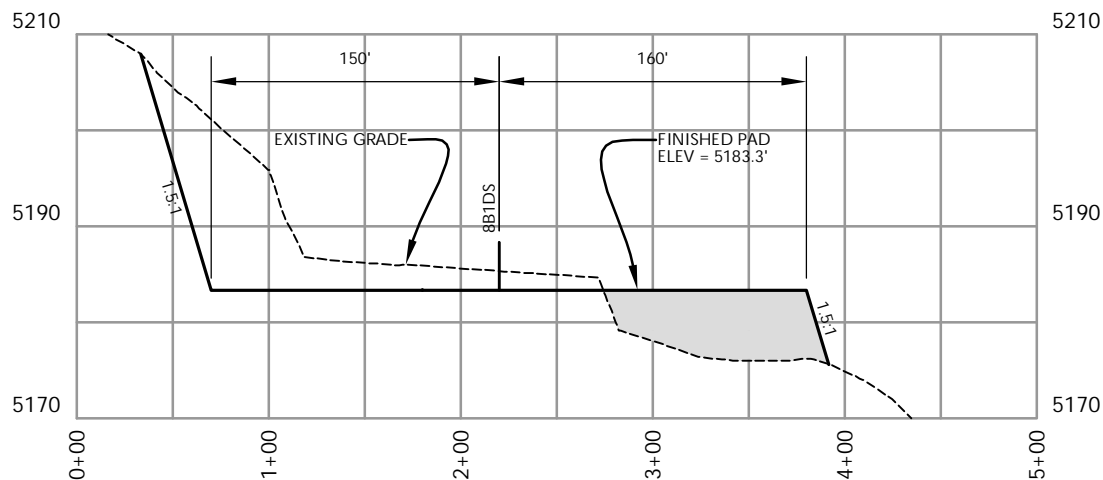


HORIZONTAL 0 30 60 1" = 60'  
2' CONTOURS

**Timberline** (435) 789-1365  
Engineering & Land Surveying, Inc.  
38 WEST 100 NORTH VERNAL, UTAH 84078



**CROSS SECTION A-A'**



**CROSS SECTION B-B'**

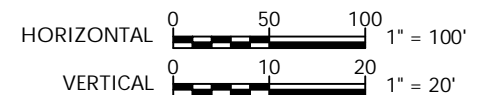
**KERR-MCGEE OIL & GAS  
ONSHORE L.P.**  
1099 18th Street - Denver, Colorado 80202

**WELL PAD - CROSS SECTIONS**  
NBU 1022-8C1CS, NBU 1022-8C1AS,  
NBU 1022-8B1DS, NBU 1022-8B4AS  
LOCATED IN SECTION 8, T.10S., R.22E.  
S.L.B.&M., UINTAH COUNTY, UTAH



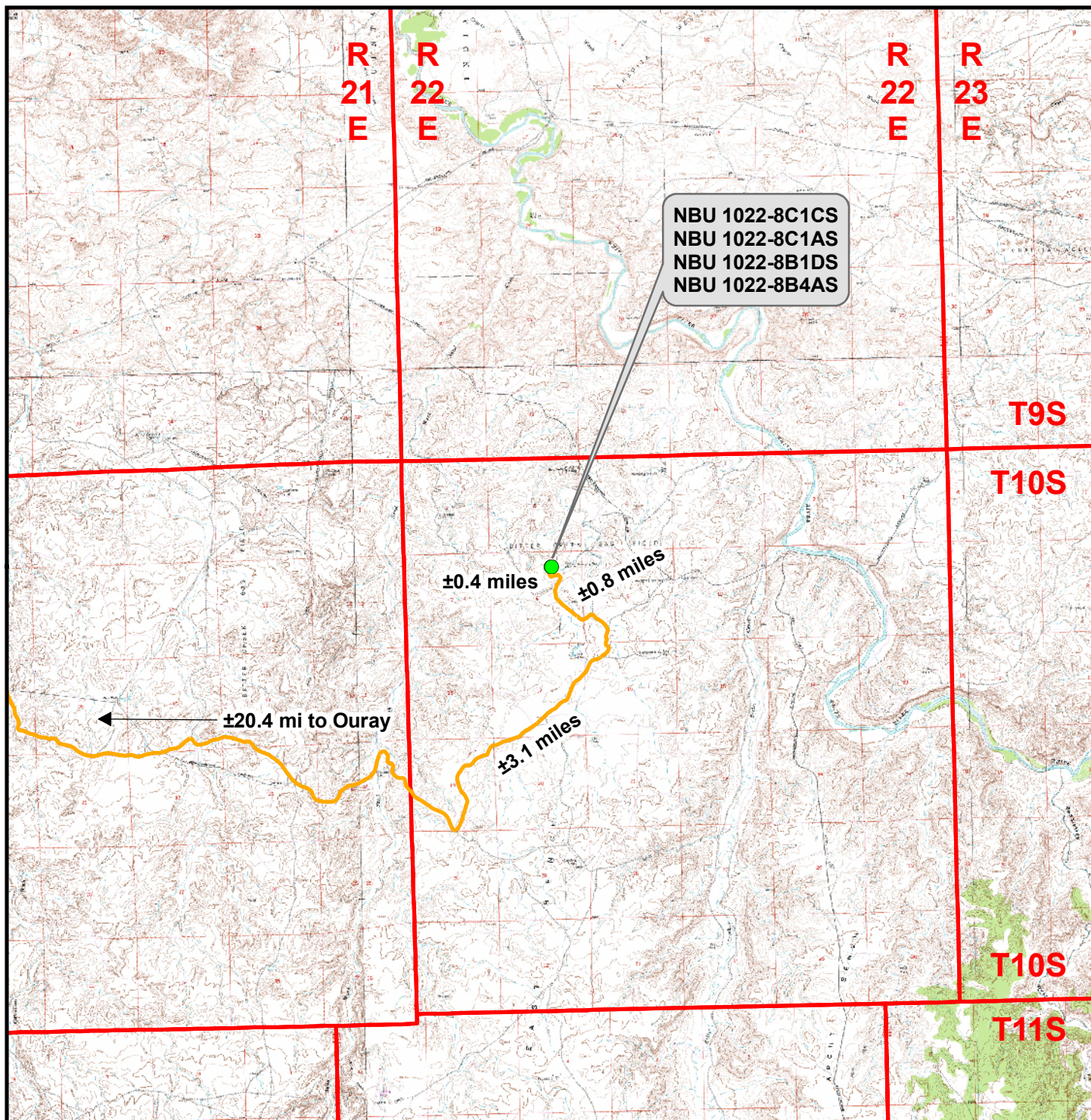
**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

Scale: 1"=100'	Date: 2/5/09	SHEET NO:
REVISED:	BY DATE	7 7 OF 13



**Timberline** (435) 789-1365  
*Engineering & Land Surveying, Inc.*  
38 WEST 100 NORTH VERNAL, UTAH 84078





### Legend

- Proposed Well Location
- Access Route - Proposed

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

**NBU 1022-8C1CS, NBU 1022-8C1AS,  
NBU 1022-8B1DS & NBU 1022-8B4AS**  
**Topo A**  
**Located In Section 8, T10S, R22E**  
**S.L.B.&M., Uintah County, Utah**



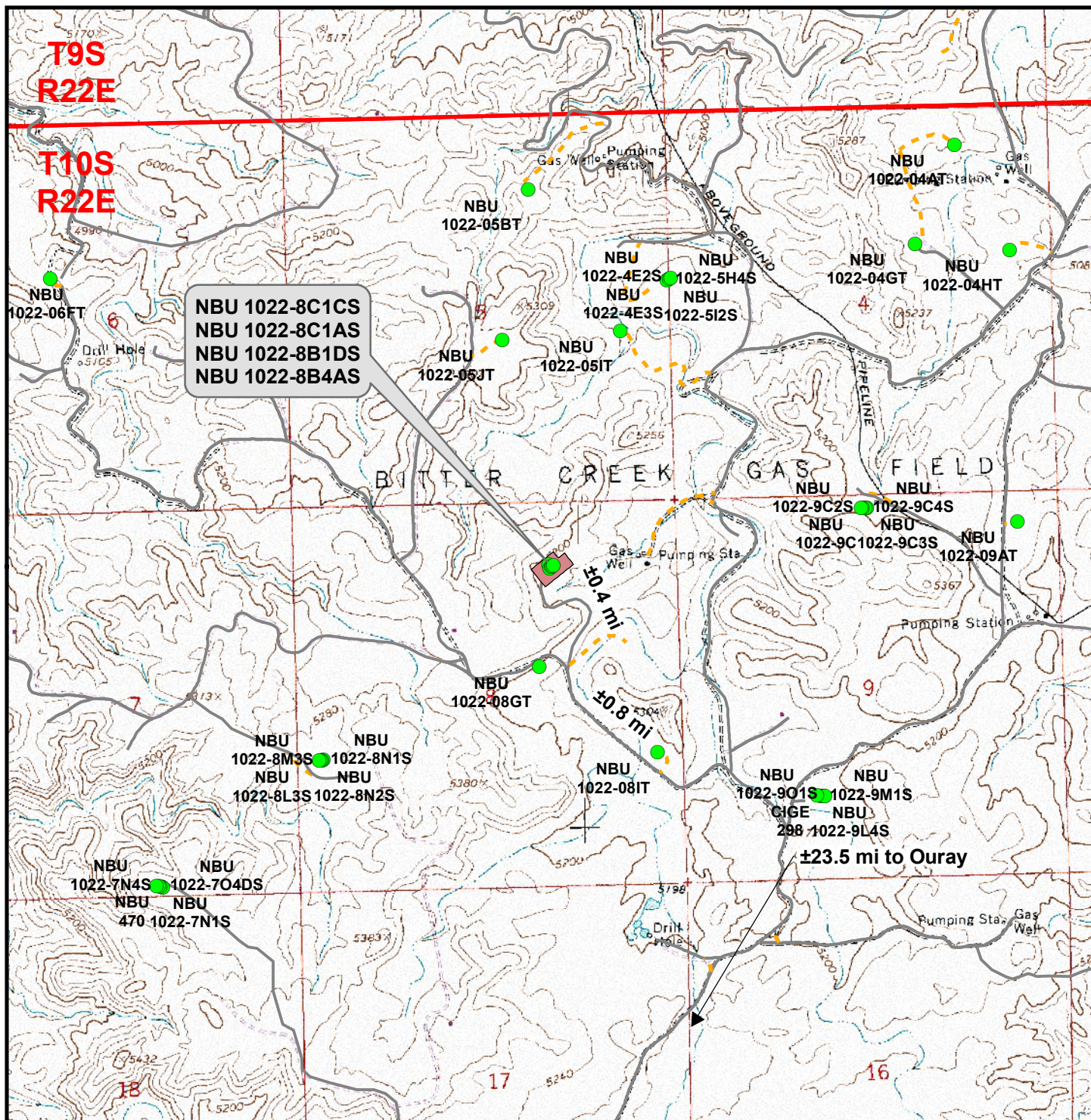
Scale: 1:100,000	NAD83 USP Central
Drawn: JELO	Date: 6 Feb 2009
Revised:	Date:

Sheet No:

**9**

9 of 13





### Legend

- Well - Proposed
- Well Pad
- - - Road - Proposed
- Road - Existing

Total Proposed Road Length: ±0ft

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

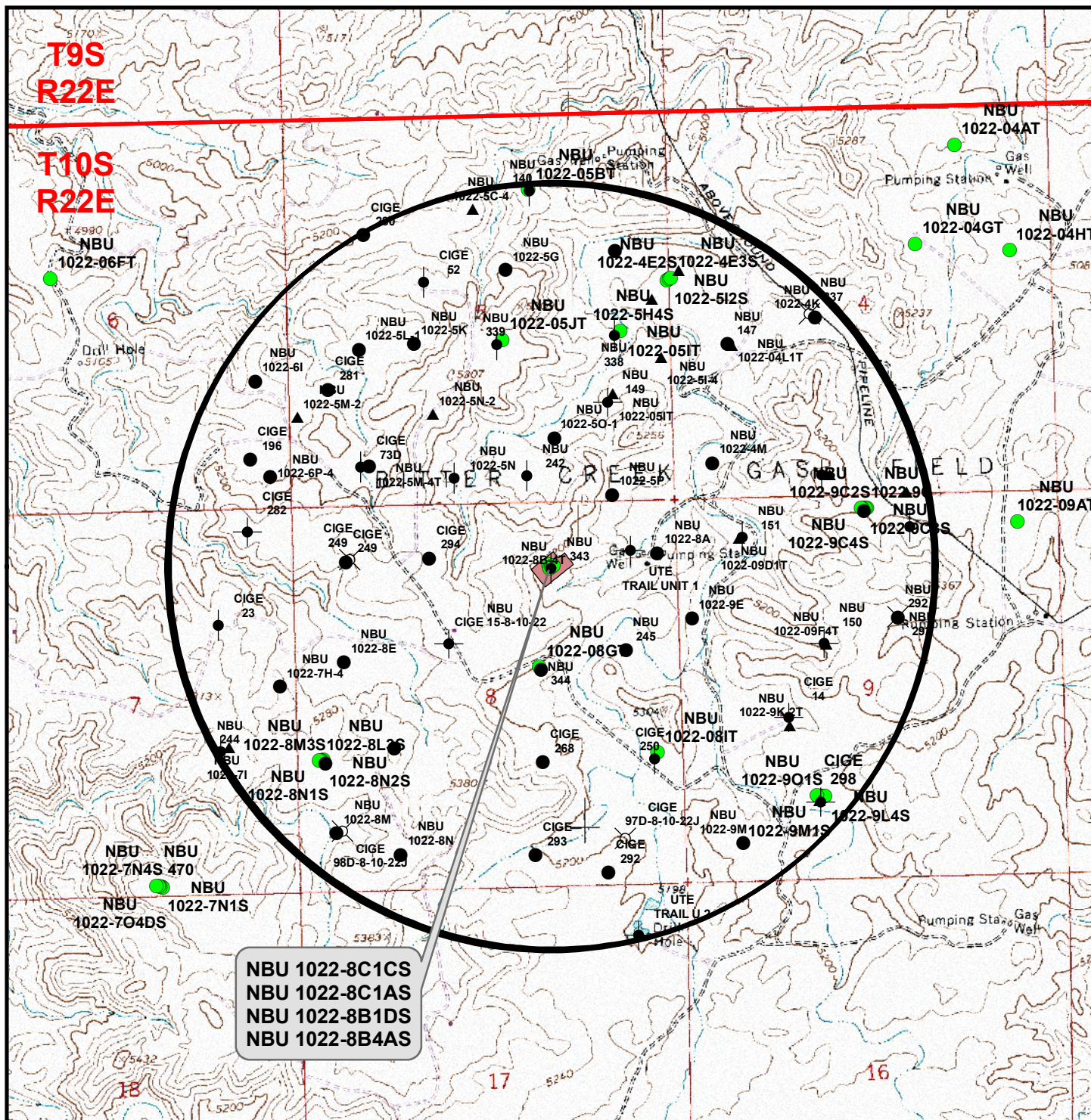
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NBU 1022-8B1DS & NBU 1022-8B4AS**  
**Topo B**  
**Located In Section 8, T10S, R22E**  
**S.L.B.&M., Uintah County, Utah**



Scale: 1" = 2000ft  
NAD83 USP Central  
Drawn: JELO  
Revised: Date: 6 Feb 2009

Sheet No:  
**10** 10 of 13





**Kerr-McGee Oil & Gas Onshore, LP**  
 1099 18th Street, Denver, Colorado 80202

**NBU 1022-8C1CS, NBU 1022-8C1AS,  
 NBU 1022-8B1DS & NBU 1022-8B4AS**  
**Topo C**  
**Located In Section 8, T10S, R22E**  
**S.L.B.&M., Uintah County, Utah**

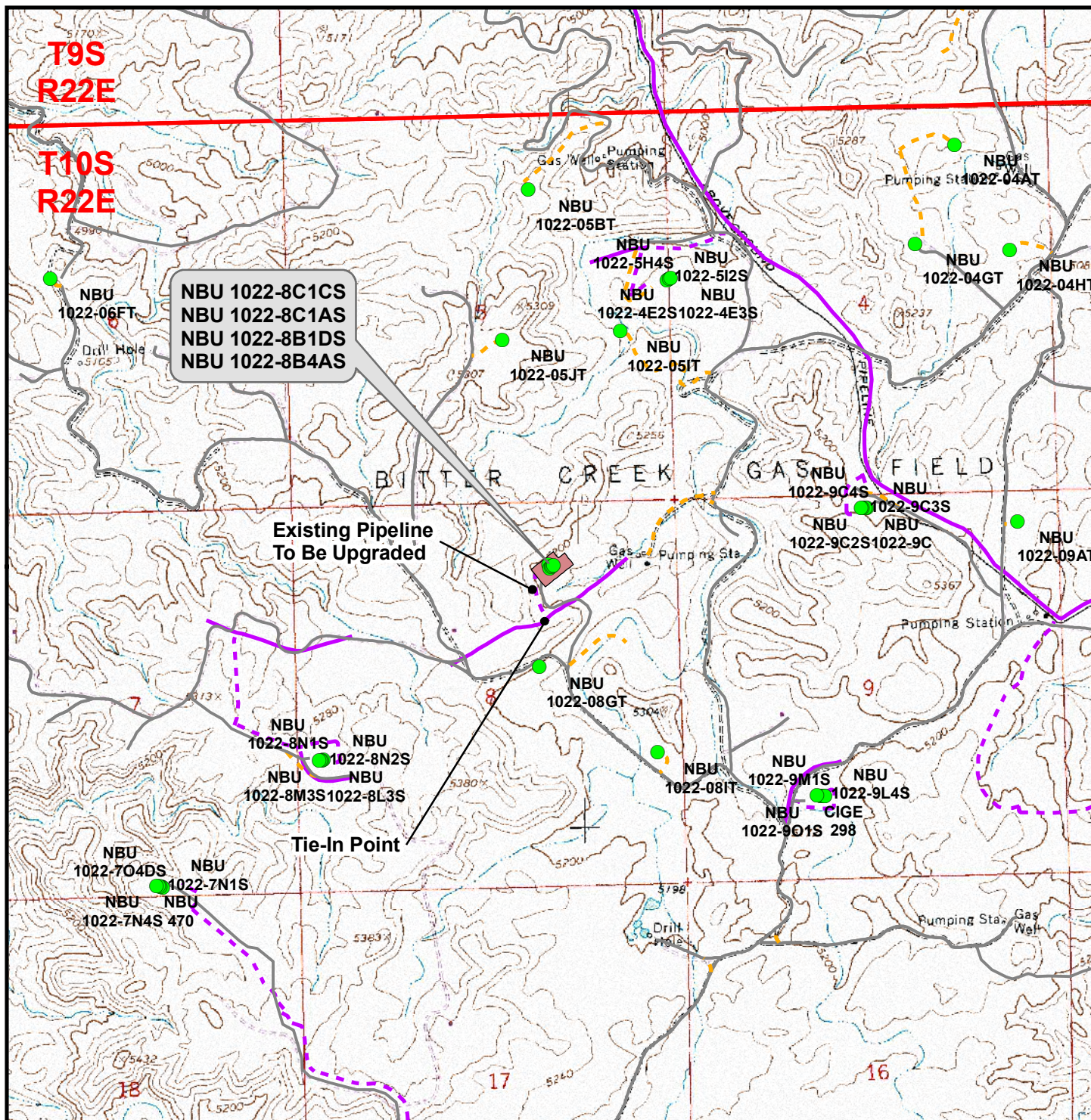
**609**  
**CONSULTING, LLC**  
 371 Coffeen Avenue  
 Sheridan, WY 82801  
 Phone (307) 674-0609  
 Fax (307) 674-0182



**Scale:** 1" = 2000ft  
**Drawn:** JELO  
**Revised:**  
**Date:** 6 Feb 2009

**Sheet No:**  
**11** 11 of 13





Kerr-McGee Oil & Gas Onshore, LP  
 1099 18th Street, Denver, Colorado 80202

**NBU 1022-8C1CS, NBU 1022-8C1AS,  
 NBU 1022-8B1DS & NBU 1022-8B4AS**  
 Topo D  
 Located In Section 8, T10S, R22E  
 S.L.B.&M., Uintah County, Utah

**609**  
 CONSULTING, LLC  
 371 Coffeen Avenue  
 Sheridan, WY 82801  
 Phone (307) 674-0609  
 Fax (307) 674-0182



Scale: 1" = 2000ft  
 NAD83 USP Central  
 Drawn: JELO  
 Revised: Date: 6 Feb 2009  
 Date:

Sheet No:  
**12** 12 of 13



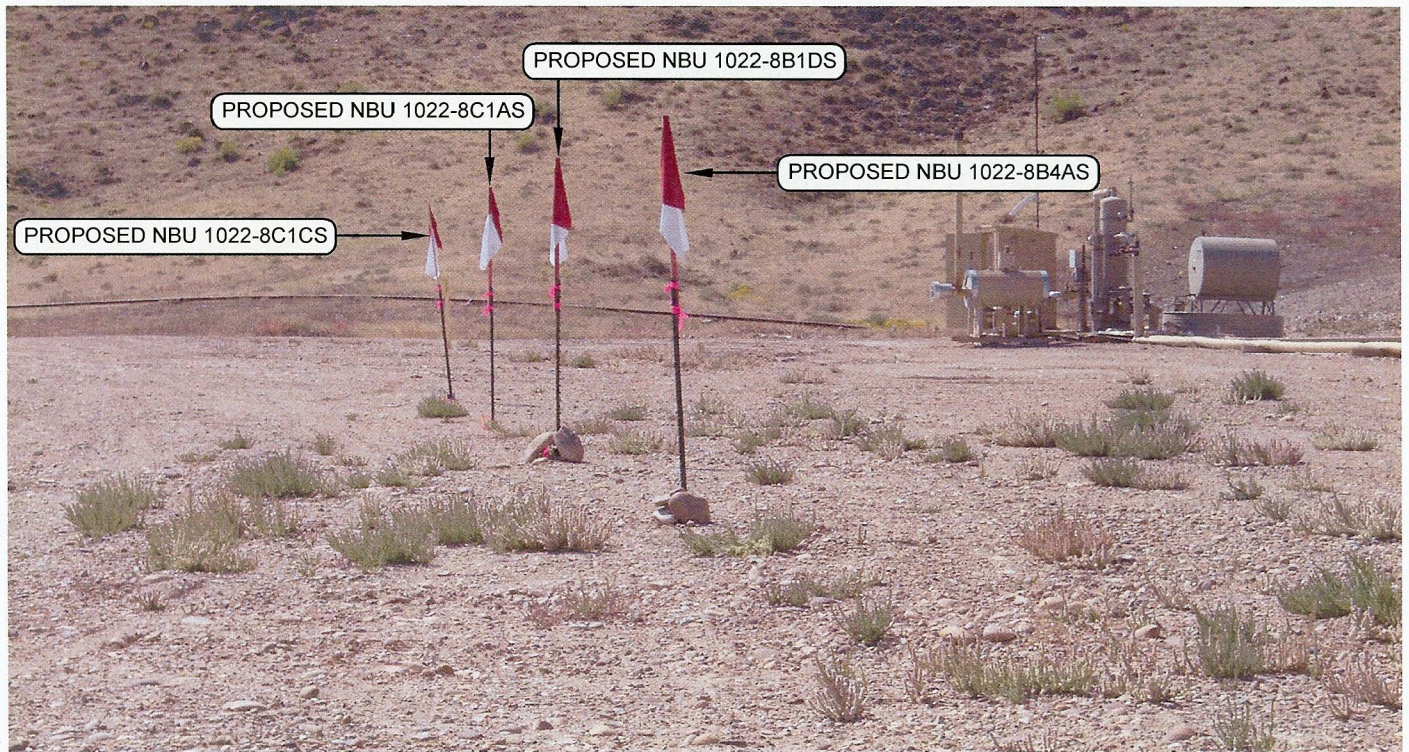


PHOTO VIEW: TO LOCATION STAKE

CAMERA ANGLE: SOUTHWESTERLY

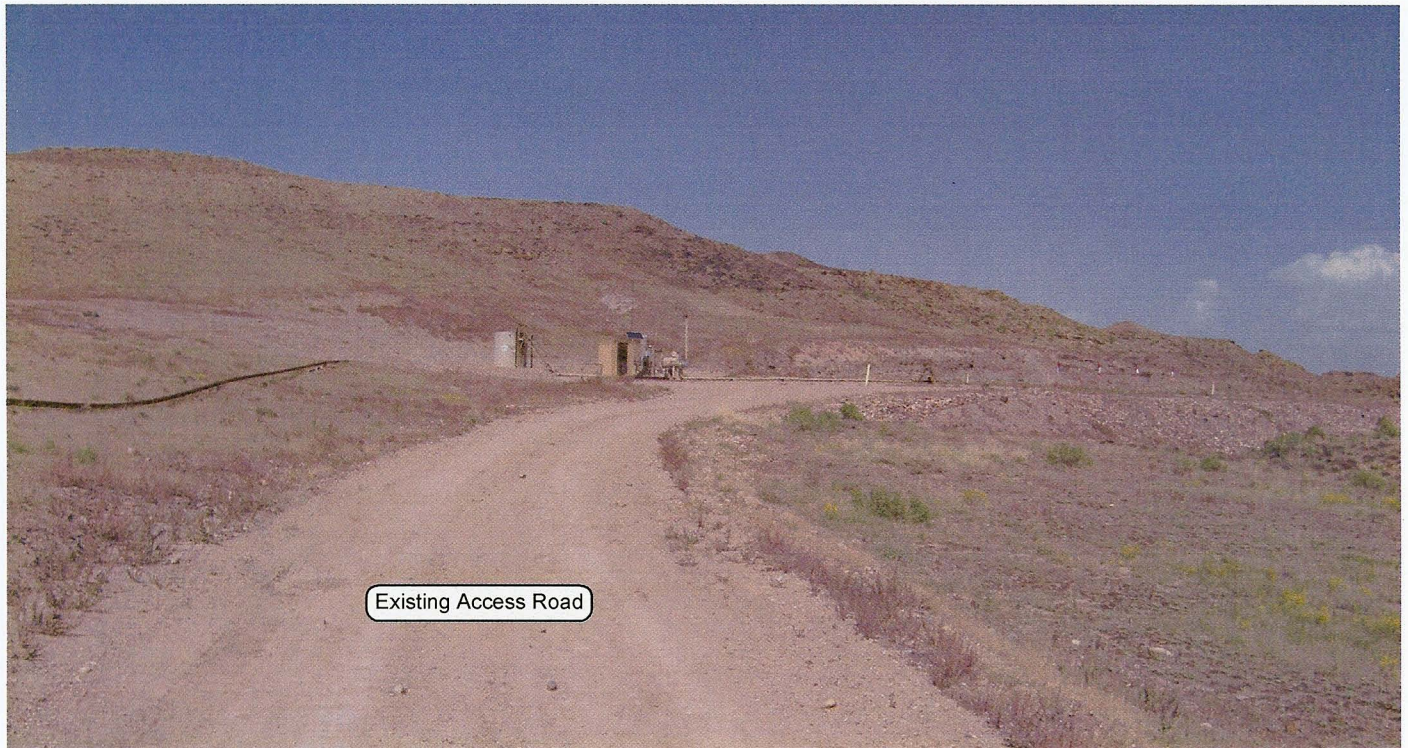


PHOTO VIEW: FROM EXISTING ROAD

CAMERA ANGLE: NORTHEASTERLY

**Kerr-McGee**  
**Oil & Gas Onshore, LP**  
 1099 18th Street – Denver, Colorado 80202

NBU 1022-8C1CS, NBU 1022-8C1AS,  
 NBU 1022-8B1DS & NBU 1022-8B4AS  
 LOCATED IN SECTION 8, T10S, R22E,  
 S.L.B.&M. UINTAH COUNTY, UTAH.



CONSULTING, LLC  
 371 Coffeen Avenue  
 Sheridan WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

**LOCATION PHOTOS**

TAKEN BY: M.S.B.

DRAWN BY: M.W.W.

DATE TAKEN: 09-18-08

DATE DRAWN: 10-03-08

REVISED:

**Timberline**  
 Engineering & Land Surveying, Inc.

(435) 789-1365

38 WEST 100 NORTH VERNAL, UTAH 84078

**SHEET**  
**8**  
**OF 13**



**Kerr-McGee Oil & Gas Onshore, LP**  
**NBU 1022-8C1CS, NBU 1022-8C1AS, NBU 1022-8B1DS & NBU 1022-8B4AS**  
**Section 8, T10S, R22E, S.L.B.&M.**

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 11.2 MILES TO THE INTERSECTION OF THE GLEN BENCH ROAD (COUNTY B ROAD 3260). EXIT LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY DIRECTION ALONG THE GLEN BENCH ROAD APPROXIMATELY 5.2 MILES TO THE INTERSECTION OF THE BITTER CREEK ROAD (COUNTY B ROAD 4120). EXIT RIGHT AND PROCEED IN A SOUTHEASTERLY DIRECTION ALONG THE BITTER CREEK ROAD APPROXIMATELY 4.0 MILES TO A CLASS D COUNTY ROAD RUNNING NORTHEASTERLY. EXIT LEFT AND PROCEED IN A NORTHEASTERLY DIRECTION ALONG THE CLASS D COUNTY ROAD APPROXIMATELY 3.1 MILES TO A SECOND CLASS D COUNTY ROAD RUNNING NORTHWESTERLY. EXIT LEFT AND PROCEED NORTHWESTERLY ALONG THE SECOND CLASS D COUNTY ROAD APPROXIMATELY 0.8 MILES TO AN EXISTING SERVICE ROAD RUNNING NORTHERLY. EXIT RIGHT AND PROCEED IN A NORTHERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 0.4 MILES TO THE EXISTING WELL PAD.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 55.4 MILES IN A SOUTHERLY DIRECTION.

**NBU 1022-8B1DS**

Surface: 931' FNL 1,709' FEL (NW/4NE/4)  
BHL: 367' FNL 1,518' FEL (NW/4NE/4)  
Mineral Lease: UTU 01196C

**NBU 1022-8B4AS**

Surface: 919' FNL 1,693' FEL (NW/4NE/4)  
BHL: 744' FNL 1,518' FEL (NW/4NE/4)  
Mineral Lease: UTU 01196C

**NBU 1022-8C1AS**

Surface: 943' FNL 1,725' FEL (NW/4NE/4)  
BHL: 102' FNL 2,415' FWL (NE/4NW/4)  
Mineral Lease: UTU 0466

**NBU 1022-8C1CS**

Surface: 955' FNL 1,742' FEL (NW/4NE/4)  
BHL: 418' FNL 2,252' FWL (NE/4NW/4)  
Mineral Lease: UTU 0466

Pad: NBU 1022-8B  
Sec. 8 T10S R22E

Uintah, Utah

**ONSHORE ORDER NO. 1**

***MULTI-POINT SURFACE USE & OPERATIONS PLAN  
SUBMITTED WITH SITE-SPECIFIC INFORMATION***

This Application for Permit to Drill (APD) is filed under the Notice of Staking (NOS) process as stated in Onshore Order No. 1 (OSO #1) and supporting Bureau of Land Management (BLM) documents. An NOS was submitted on March 17, 2009 showing the surface locations in NW/4 NE/4 of Section 8 T10S R22E.

This Surface Use Plan of Operations (SUPO) or 13-point plan provides the site-specific information for the above-referenced wells. This information is to be incorporated by reference into the Master Development Plan (MDP) for Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee). The MDP is available upon request from the BLM-Vernal Field Office.

An on-site meeting was held on March 31, 2009. Present were:

- Verlyn Pindell, Dave Gordon – BLM;
- Kolby Kay – 609 Consulting, LLC
- Tony Kazeck, Raleen White, Sheila Upchego, Grizz Oleen, Hal Blanchard, Charles Chase and Jeff Samuels – Kerr-McGee.

**Directional Drilling:**

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

**1. Existing Roads:**

- A) Refer to Topo Map A for directions to the location.
- B) Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

**2. Planned Access Roads:**

*See MDP for additional details on road construction.*

No new access road is proposed. Please refer to the attached Topo Map B. No pipelines will be crossed with the new construction.

*Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site and are typically shown on the attached Exhibits and Topo maps.*

**3. Location of Existing Wells Within a 1-Mile Radius:**

Please refer to Topo Map C.

**4. Location of Existing and Proposed Facilities:**

*See MDP for additional details on Existing and Proposed Facilities.*

This pad will expand the existing pad for the NBU 343, which is a shut-in well according to Utah Division of Oil, Gas and Mining (UDOGM) records.

*The following guidelines will apply if the well is productive.*

**Approximately  $\pm 1,400'$  ( $\pm 0.27$  miles) of pipeline is proposed. The existing pipeline, as shown on Topo D, will be upgraded to accommodate anticipated production from the proposed wells. The upgraded pipeline will follow the same route as the existing pipeline.** Pipeline segments will be welded or zaplocked together on disturbed areas in or near the location, whenever possible, and dragged into place.

**5. Location and Type of Water Supply:**

*See MDP for additional details on Location and Type of Water Supply.*

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.



6. **Source of Construction Materials:**

*See MDP for additional details on Source of Construction Materials.*

7. **Methods of Handling Waste Materials:**

*See MDP for additional details on Methods of Handling Waste Materials.*

Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E

NBU #159 in Sec. 35 T9S R21E

Ace Oilfield in Sec. 2 T6S R20E

MC&MC in Sec. 12 T6S R19E

Pipeline Facility in Sec. 36 T9S R20E

Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E

Bonanza Evaporation Pond in Sec. 2 T10S R23E

8. **Ancillary Facilities:**

*See MDP for additional details on Ancillary Facilities.*

None are anticipated.

9. **Well Site Layout:** (See Location Layout Diagram)

*See MDP for additional details on Well Site Layout.*

All pits will be fenced according to the following minimum standards:

- Net wire (39-inch) will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.
- The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.
- Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.
- Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.
- All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

10. **Plans for Reclamation of the Surface:**

*See MDP for additional details on Plans for Reclamation of the Surface.*

11. **Surface/Mineral Ownership:**

United States of America

Bureau of Land Management

170 South 500 East

Vernal, UT 84078

(435)781-4400

**12. Other Information:**

*See MDP for additional details on Other Information.*

**13. Lessee's or Operators' Representative & Certification:**

Kathy Schneebeck Dulnoan  
Regulatory Analyst  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6007

Tommy Thompson  
General Manager, Drilling  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6724


Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

  
Kathy Schneebeck Dulnoan

August 13, 2009  
Date



# Kerr-McGee Oil & Gas Onshore LP

1099 18th Street, Suite 1800  
Denver, CO 80202-1918  
P.O. Box 173779  
Denver, CO 80217-3779  
720-929-6000

April 8, 2009

Mrs. Diana Mason  
Division of Oil, Gas and Mining  
P.O. Box 145801  
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11  
NBU 1022-8C1CS  
T10S-R22E  
Section 8: NENW  
Surface: 955' FNL, 1742' FEL  
Bottom Hole: 418' FNL, 2252' FWL  
Uintah County, Utah

Dear Mrs. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Exception to Location and Siting of Wells.

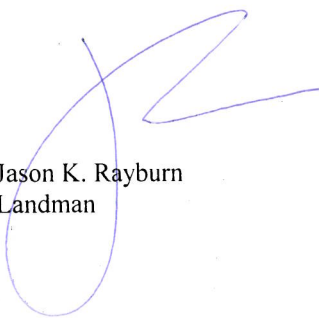
- Kerr-McGee's NBU 1022-8C1CS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Jason K. Rayburn  
Landman

A handwritten signature in blue ink, appearing to be 'JR', is written over the typed name and title.

CLASS I REVIEW OF KERR-MCGEE OIL AND GAS  
ONSHORE LP'S 55 PROPOSED WELL LOCATIONS  
IN TOWNSHIP 10S, RANGE 22E,  
SECTIONS 4, 7, 8, 9, 10, 18 AND 20,  
UINTAH COUNTY, UTAH

By:

Patricia Stavish

Prepared For:  
Bureau of Land Management  
Vernal Field Office  
and  
State of Utah  
School & Institutional Trust Lands Administration

Prepared Under Contract With:

Kerr-McGee Oil and Gas Onshore LP  
1368 South 1200 East  
Vernal, Utah 84078

Prepared By:

Montgomery Archaeological Consultants, Inc.  
P.O. Box 219  
Moab, Utah 84532

MOAC Report No. 08-321

February 20, 2009

United States Department of Interior (FLPMA)  
Permit No. 08-UT-60122

Public Lands Policy Coordination Office  
Archaeological Survey Permit No. 117

**IPC #08-279**

# **Paleontological Reconnaissance Survey Report**

---

**Survey of Kerr McGee's Proposed Directional Wells and Pipeline  
for "NBU #1022-8C1CS, 8C1AS, 8B1DS, &  
8B4AS" (Sec. 8, T 10 S, R 22 E)**

Archy Bench  
Topographic Quadrangle  
Uintah County, Utah

December 1, 2008

Prepared by Stephen D. Sandau  
Paleontologist for  
Intermountain Paleo-Consulting  
P. O. Box 1125  
Vernal, Utah 84078



API Number: 4304750643

Well Name: NBU 1022-8C1CS

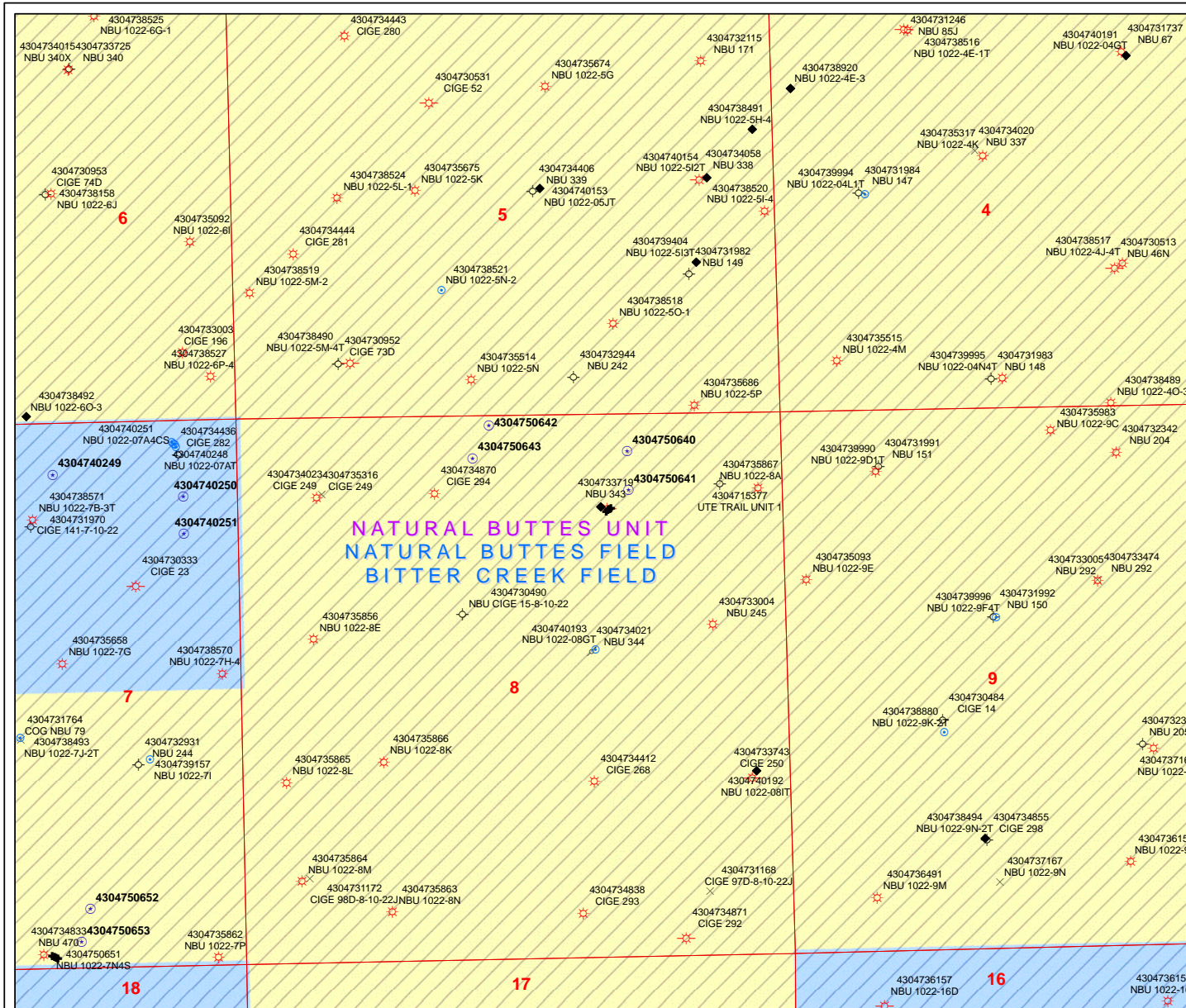
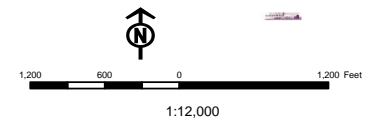
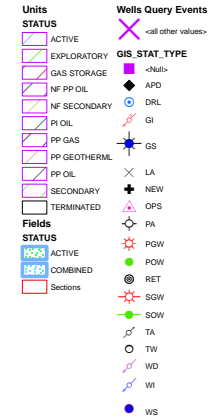
Township 10.0 S Range 22.0 E Section 8

Meridian: SLBM

Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:

Map Produced by Diana Mason



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
P.O. Box 45155  
Salt Lake City, Utah 84145-0155

### IN REPLY REFER TO:

3160  
(UT-922)

August 28, 2009

### Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2009 Plan of Development Natural Buttes Unit Uintah  
County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2009 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-50640	NBU 1022-8B1DS	Sec 08 T10S R22E 0931 FNL 1709 FEL
	BHL	Sec 08 T10S R22E 0367 FNL 1518 FEL
43-047-50641	NBU 1022-8B4AS	Sec 08 T10S R22E 0919 FNL 1693 FEL
	BHL	Sec 08 T10S R22E 0744 FNL 1518 FEL
43-047-50642	NBU 1022-8C1AS	Sec 08 T10S R22E 0943 FNL 1725 FEL
	BHL	Sec 08 T10S R22E 0102 FNL 2415 FWL
43-047-50643	NBU 1022-8C1CS	Sec 08 T10S R22E 0955 FNL 1742 FEL
	BHL	Sec 08 T10S R22E 0418 FNL 2252 FWL
43-047-50644	NBU 922-30C3S	Sec 30 T09S R22E 1253 FNL 0663 FWL
	BHL	Sec 30 T09S R22E 1238 FNL 1154 FWL
43-047-50645	NBU 922-30D3AS	Sec 30 T09S R22E 1232 FNL 0607 FWL
	BHL	Sec 30 T09S R22E 0680 FNL 0382 FWL
43-047-50646	NBU 921-30C3CS	Sec 30 T09S R21E 0783 FNL 0920 FWL
	BHL	Sec 30 T09S R21E 0993 FNL 1985 FWL
43-047-50647	NBU 921-30D2DS	Sec 30 T09S R21E 0747 FNL 0871 FWL
	BHL	Sec 30 T09S R21E 0460 FNL 0665 FWL



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API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-50648	NBU 921-30D3DS	Sec 30 T09S R21E 0759 FNL 0887 FWL BHL Sec 30 T09S R21E 1152 FNL 0665 FWL
43-047-50649	NBU 921-30E2AS	Sec 30 T09S R21E 0771 FNL 0903 FWL BHL Sec 30 T09S R21E 1522 FNL 0665 FWL
43-047-50650	NBU 1022-7N1S	Sec 07 T10S R22E 0089 FSL 1920 FEL BHL Sec 07 T10S R22E 0895 FSL 1870 FWL
43-047-50651	NBU 1022-7N4S	Sec 07 T10S R22E 0097 FSL 1938 FEL BHL Sec 07 T10S R22E 0595 FSL 1740 FWL
43-047-50652	NBU 1022-7O4AS	Sec 07 T10S R22E 0081 FSL 1902 FEL BHL Sec 07 T10S R22E 0550 FSL 1560 FEL
43-047-50653	NBU 1022-7O4DS	Sec 07 T10S R22E 0074 FSL 1883 FEL BHL Sec 07 T10S R22E 0230 FSL 1650 FEL
43-047-50655	NBU 922-30D3DS	Sec 30 T09S R22E 1226 FNL 0588 FWL BHL Sec 30 T09S R22E 1314 FNL 0352 FWL
43-047-50656	NBU 922-30E2AS	Sec 30 T09S R22E 1246 FNL 0645 FWL BHL Sec 30 T09S R22E 1636 FNL 0352 FWL
43-047-50678	NBU 922-31G4BS	Sec 31 T09S R22E 2317 FSL 0188 FEL BHL Sec 31 T09S R22E 1994 FNL 1808 FEL
43-047-50679	NBU 922-31G4CS	Sec 31 T09S R22E 2316 FSL 0198 FEL BHL Sec 31 T09S R22E 2353 FNL 1796 FEL
43-047-50680	NBU 922-31I1AS	Sec 31 T09S R22E 2317 FSL 0178 FEL BHL Sec 31 T09S R22E 2483 FSL 0243 FEL
43-047-50681	NBU 922-31I1DS	Sec 31 T09S R22E 2317 FSL 0168 FEL BHL Sec 31 T09S R22E 2137 FSL 0264 FEL
43-047-50682	NBU 921-12J	Sec 12 T09S R21E 1959 FSL 2051 FEL
43-047-50684	NBU 1022-6I3AS	Sec 06 T10S R22E 1160 FSL 1584 FEL BHL Sec 06 T10S R22E 1684 FSL 1167 FEL
43-047-50685	NBU 1022-6J4CS	Sec 06 T10S R22E 1178 FSL 1593 FEL BHL Sec 06 T10S R22E 1535 FSL 1760 FEL
43-047-50686	NBU 1022-6O1BS	Sec 06 T10S R22E 1124 FSL 1567 FEL BHL Sec 06 T10S R22E 1197 FSL 1811 FEL

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API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-50687	NBU 1022-6P1CS	Sec 06 T10S R22E 1142 FSL 1575 FEL
	BHL	Sec 06 T10S R22E 0989 FSL 0541 FEL
43-047-50691	NBU 921-29A3AS	Sec 29 T09S R21E 0299 FNL 2630 FEL
	BHL	Sec 29 T09S R21E 0700 FNL 0885 FEL
43-047-50692	NBU 921-29A3DS	Sec 29 T09S R21E 0303 FNL 2628 FWL
	BHL	Sec 29 T09S R21E 1193 FNL 0885 FEL
43-047-50694	NBU 921-29A2AS	Sec 29 T09S R21E 0296 FNL 2611 FEL
	BHL	Sec 29 T09S R21E 0209 FNL 0885 FEL
43-047-50693	NBU 921-29B2CS	Sec 29 T09S R21E 0307 FNL 2608 FWL
	BHL	Sec 29 T09S R21E 0443 FNL 2635 FEL
43-047-50695	NBU 921-12N	Sec 12 T09S R21E 0441 FSL 2236 FWL
43-047-50698	NBU 921-19F	Sec 19 T09S R21E 2236 FNL 2285 FWL
43-047-50699	NBU 921-17C	Sec 17 T09S R21E 0656 FNL 2004 FWL
43-047-50700	NBU 921-17D	Sec 17 T09S R21E 0985 FNL 0418 FWL
43-047-50701	NBU 921-17G	Sec 17 T09S R21E 1500 FNL 2262 FEL
43-047-50702	NBU 921-17H	Sec 17 T09S R21E 2100 FNL 0553 FEL
43-047-50703	NBU 921-18P	Sec 18 T09S R21E 1080 FSL 0197 FEL
43-047-50704	NBU 921-19E	Sec 19 T09S R21E 2061 FNL 0842 FWL

This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

bcc: File – Natural Buttes Unit  
Division of Oil Gas and Mining  
Central Files  
Agr. Sec. Chron

Fluid Chron

MCoulthard:mc:8-28-09

# WORKSHEET

## APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 8/17/2009

**WELL NAME:** NBU 1022-8C1CS

**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)

**CONTACT:** Danielle Piernot

**API NO. ASSIGNED:** 43047506430000

**PHONE NUMBER:** 720 929-6156

**PROPOSED LOCATION:** NWNE 8 100S 220E

**SURFACE:** 0955 FNL 1742 FEL

**BOTTOM:** 0418 FNL 2252 FWL

**COUNTY:** UINTAH

**LATITUDE:** 39.96805

**UTM SURF EASTINGS:** 631543.00

**FIELD NAME:** NATURAL BUTTES

**LEASE TYPE:** 1 - Federal

**LEASE NUMBER:** UTU 0466

**SURFACE OWNER:** 1 - Federal

**Permit Tech Review:** ☒

**Engineering Review:** ☒

**Geology Review:** ☒

**LONGITUDE:** -109.45975

**NORTHINGS:** 4425137.00

**PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE

**COALBED METHANE:** NO

### RECEIVED AND/OR REVIEWED:

☒ **PLAT**

☒ **Bond:** FEDERAL - WYB000291

☐ **Potash**

☒ **Oil Shale 190-5**

☐ **Oil Shale 190-3**

☐ **Oil Shale 190-13**

☒ **Water Permit:** Permit #43-8496

☐ **RDCC Review:**

☐ **Fee Surface Agreement**

☒ **Intent to Commingle**

**Commingle Approved**

### LOCATION AND SITING:

☐ **R649-2-3.**

**Unit:** NATURAL BUTTES

☐ **R649-3-2. General**

☒ **R649-3-3. Exception**

☒ **Drilling Unit**

**Board Cause No:** Cause 173-14

**Effective Date:** 12/2/1999

**Siting:** 460' fr u bdry & uncomm. tract

☒ **R649-3-11. Directional Drill**

**Comments:** Presite Completed

**Stipulations:**  
1 - Exception Location - dmason  
3 - Commingle - ddoucet  
4 - Federal Approval - dmason  
15 - Directional - dmason  
17 - Oil Shale 190-5(b) - dmason



JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*Lieutenant Governor*

## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

### Permit To Drill

\*\*\*\*\*

**Well Name:** NBU 1022-8C1CS  
**API Well Number:** 43047506430000  
**Lease Number:** UTU 0466  
**Surface Owner:** FEDERAL  
**Approval Date:** 8/31/2009

**Issued to:**

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

**Authority:**

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

**Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

**Exception Location:**

Appropriate information has been submitted to DOGM and administrative approval of the requested exception location is hereby granted.

**Commingling:**

In accordance with Board Cause No. 173-14 commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

**General:**

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

**Conditions of Approval:**

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale

Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

**Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

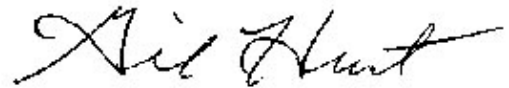
- Within 24 hours following the spudding of the well – contact Carol Daniels at 801-538-5284 (please leave a voicemail message if not available)  
OR  
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <https://oilgas.ogm.utah.gov>

**Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

**Approved By:**

A handwritten signature in black ink, appearing to read "Gil Hunt", with a stylized, flowing script.

Gil Hunt  
Associate Director, Oil & Gas

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0466
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 1022-8C1CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0955 FNL 1742 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 08 Township: 10.0S Range: 22.0E Meridian: S		<b>9. API NUMBER:</b> 43047506430000
<b>PHONE NUMBER:</b> 720 929-6007 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 8/31/2010	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input checked="" type="checkbox"/> <b>APD EXTENSION</b>	
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	OTHER: <input style="width: 100px;" type="text"/>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.		
<b>Approved by the Utah Division of Oil, Gas and Mining</b>		
<b>Date:</b> <u>August 31, 2010</u>		
<b>By:</b>		
<b>NAME (PLEASE PRINT)</b> Danielle Piernot	<b>PHONE NUMBER</b> 720 929-6156	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 8/30/2010	

**RECEIVED** August 30, 2010



## The Utah Division of Oil, Gas, and Mining

- State of Utah  
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

### Request for Permit Extension Validation Well Number 43047506430000

**API:** 43047506430000

**Well Name:** NBU 1022-8C1CS

**Location:** 0955 FNL 1742 FEL QTR NWNE SEC 08 TWNP 100S RNG 220E MER S

**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 8/31/2009

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated? ☐ Yes ☒ No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? ☐ Yes ☒ No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? ☐ Yes ☒ No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? ☐ Yes ☒ No
- Has the approved source of water for drilling changed? ☐ Yes ☒ No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? ☐ Yes ☒ No
- Is bonding still in place, which covers this proposed well? ☒ Yes ☐ No

Approved by the  
Utah Division of  
Oil, Gas and Mining

**Signature:** Danielle Piernot

**Date:** 8/30/2010

**Title:** Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date:** August 31, 2010

**By:** 

RECEIVED August 30, 2010



# RECEIVED

Form 3160-3  
(August 2007)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

AUG 28 2009  
70

FORM APPROVED  
OMB No. 1004-0136  
Expires July 31, 2010

## APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU466
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator KERRMCGEE OIL&GAS ONSHORE LP Contact: DANIELLE E PIERNOT Email: Danielle.Piernot@anadarko.com		7. If Unit or CA Agreement, Name and No. 891008900A
3a. Address PO BOX 173779 DENVER, CO 80202-3779		8. Lease Name and Well No. NBU 1022-8C1CS
3b. Phone No. (include area code) Ph: 720-929-6156 Fx: 720-929-7156		9. API Well No. 43-047-50643
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NWNE 955FNL 1742FEL 39.96811 N Lat, 109.46045 W Lon At proposed prod. zone NENW 418FNL 2252FWL 39.96958 N Lat, 109.46505 W Lon		10. Field and Pool, or Exploratory NATURAL BUTTES
14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 25 MILES SOUTHEAST OF OURAY, UTAH		11. Sec., T., R., M., or Blk. and Survey or Area Sec 8 T10S R22E Mer SLB
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 418 FEET	16. No. of Acres in Lease 454.00	12. County or Parish UINTAH
17. Spacing Unit dedicated to this well	13. State UT	
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. APPROXIMATELY 360 FEET	19. Proposed Depth 9494 MD 9100 TVD	20. BLM/BIA Bond No. on file WYB000291
21. Elevations (Show whether DF, KB, RT, GL, etc.) 5186 GL	22. Approximate date work will start 08/31/2009	23. Estimated duration 60-90 DAYS

### 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- |   |  |
|---|--|
| 1. Well plat certified by a registered surveyor.  | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).    |
| 2. A Drilling Plan.   | 5. Operator certification  |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature (Electronic Submission)	Name (Printed/Typed) DANIELLE E PIERNOT Ph: 720-929-6156	Date 08/17/2009
Title REGULATORY ANALYST		
Approved by (Signature) 	Name (Printed/Typed) Jerry Kenczka	Date APR 07 2011
Title Assistant Field Manager Lands & Mineral Resources	Office VERNAL FIELD OFFICE	

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

Electronic Submission #73331 verified by the BLM Well Information System  
For KERRMCGEE OIL&GAS ONSHORE LP, sent to the Vernal  
Committed to AFMSS for processing by ROBIN R. HANSEN on 08/18/2009 ( )

UDOGM

RECEIVED

APR 13 2011

DIV. OF OIL, GAS & MINING

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

08/18/2009

08/18/2009



UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
VERNAL FIELD OFFICE

170 South 500 East

VERNAL, UT 84078

(435) 781-4400



**CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL**

Company:	Kerr McGee Oil & Gas Onshore, LP	Location:	NWNE, Sec. 8, T10S, R22E (S) NENW, Sec. 8, T10S, R22E (B)
Well No:	Bonanza 1022-8C1CS	Lease No:	UTU-466
API No:	43-047-50643	Agreement:	Natural Buttes Unit

OFFICE NUMBER: (435) 781-4400

OFFICE FAX NUMBER: (435) 781-3420

**A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR  
FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

**NOTIFICATION REQUIREMENTS**

Location Construction (Notify Environmental Scientist)	- Forty-Eight (48) hours prior to construction of location and access roads.
Location Completion (Notify Environmental Scientist)	- Prior to moving on the drilling rig.
Spud Notice (Notify Petroleum Engineer)	- Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to running casing and cementing all casing strings to: <a href="mailto:ut_vn_opreport@blm.gov">ut_vn_opreport@blm.gov</a> .
BOP & Related Equipment Tests (Notify Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify Petroleum Engineer)	- Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

***SURFACE USE PROGRAM  
CONDITIONS OF APPROVAL (COAs)***

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO<sub>x</sub> per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO<sub>x</sub> per horsepower-hour.
- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.
- If paleontological materials are uncovered during construction, the operator is to immediately stop work and contact the Authorized Officer (AO). A determination will be made by the AO as to what mitigation may be necessary for the discovered paleontologic material before construction can continue.

**SITE SPECIFIC COAs:**

- During operation, if any vertebrate paleontological resources are discovered, in accordance with **Section 6 of Form 3100-11** and **43 CFR 3162.1**, all operations affecting such sights shall be immediately suspended, and all discoveries shall be left intact until authorized to proceed by the Authorized Officer. The appropriate Authorized Officer of the Vernal BLM office shall be notified within 48 hours of the discovery, and a decision as to the preferred alternative/course of action will be rendered.
- Kerr McGee will adhere to all applicant committed conservation measures and conservation recommendations that are stated in the USFWS's "Final Biological Opinion for the Anadarko Petroleum Corporation Natural Buttes Unit and Bonanza Area Natural Gas Development Project.
- The operator will follow the Green River District Reclamation Guidelines for Reclamation.
- The operator will control noxious weeds along the well pad, access road, and the pipeline route by spraying or mechanical removal. On BLM administered land, a Pesticides Use Proposal (PUP) will be submitted and approved prior to the application of herbicides or pesticides or possibly hazardous chemicals.

***DOWNHOLE PROGRAM  
CONDITIONS OF APPROVAL (COAs)***

**SITE SPECIFIC DOWNHOLE COAs:**

- A copy of Kerr McGee's Standard Operating Practices (SOP version: dated 7/17/08 and approved 7/28/08) shall be on location.

**All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:**

**DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS**

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.

- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- **Please submit an electronic copy of all other logs run on this well in LAS format to UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or work-over program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

## **OPERATING REQUIREMENT REMINDERS:**

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at [www.ONRR.gov](http://www.ONRR.gov).
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
  - Operator name, address, and telephone number.
  - Well name and number.
  - Well location (¼¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - Unit agreement and/or participating area name and number, if applicable.
  - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0466			
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>			
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 1022-8C1CS			
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0955 FNL 1742 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 08 Township: 10.0S Range: 22.0E Meridian: S		<b>9. API NUMBER:</b> 43047506430000			
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES			
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 7/12/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input checked="" type="checkbox"/> APD EXTENSION          OTHER: <span style="border: 1px solid black; display: inline-block; width: 100px; height: 15px;"></span> </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input checked="" type="checkbox"/> APD EXTENSION OTHER: <span style="border: 1px solid black; display: inline-block; width: 100px; height: 15px;"></span>
<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input checked="" type="checkbox"/> APD EXTENSION OTHER: <span style="border: 1px solid black; display: inline-block; width: 100px; height: 15px;"></span>			
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b>  Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.					
<b>Approved by the Utah Division of Oil, Gas and Mining</b>  <b>Date:</b> 07/12/2011 <b>By:</b>					
<b>NAME (PLEASE PRINT)</b> Andy Lytle		<b>PHONE NUMBER</b> 720 929-6100			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst			
<b>DATE</b> 7/12/2011					





## The Utah Division of Oil, Gas, and Mining

- State of Utah  
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

### Request for Permit Extension Validation Well Number 43047506430000

**API:** 43047506430000

**Well Name:** NBU 1022-8C1CS

**Location:** 0955 FNL 1742 FEL QTR NWNE SEC 08 TWNP 100S RNG 220E MER S

**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 8/31/2009

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated? ☐ Yes ☒ No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? ☐ Yes ☒ No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? ☐ Yes ☒ No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? ☐ Yes ☒ No
- Has the approved source of water for drilling changed? ☐ Yes ☒ No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? ☐ Yes ☒ No
- Is bonding still in place, which covers this proposed well? ☒ Yes ☐ No

**Signature:** Andy Lytle

**Date:** 7/12/2011

**Title:** Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**RECEIVED** Jul. 12, 2011

## BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG  
Submitted By SHEILA WOPSOCI Phone Number 435.781.7024  
Well Name/Number NBU 1022-8C1CS  
Qtr/Qtr NW/NE Section 8 Township 10S Range 22E  
Lease Serial Number UTU-0466  
API Number 4304750643

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 01/26/2012 0800 HRS. AM ☒ PM ☐

Casing – Please report time casing run starts, not cementing times.

- ☒ Surface Casing  
☐ Intermediate Casing  
☐ Production Casing  
☐ Liner  
☐ Other

Date/Time 02/04/2012 0800 HRS. AM ☒ PM ☐

BOPE

- ☐ Initial BOPE test at surface casing point  
☐ BOPE test at intermediate casing point  
☐ 30 day BOPE test  
☐ Other

**RECEIVED**

JAN 25 2012

DIV. OF OIL, GAS &amp; MINING

Date/Time \_\_\_\_\_ AM ☐ PM ☐

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT  
LOVEL YOUNG AT 435.781.7051 FOR MORE

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0466
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 1022-8C1CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0955 FNL 1742 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 08 Township: 10.0S Range: 22.0E Meridian: S		<b>9. API NUMBER:</b> 43047506430000
<b>PHONE NUMBER:</b> 720 929-6514		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	
<input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 1/26/2012	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> MIRU TRIPPLE A BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL ON 01/26/2012 AT 0730 HRS.		
Accepted by the Utah Division of Oil, Gas and Mining <b>FOR RECORD ONLY</b> February 01, 2012		
<b>NAME (PLEASE PRINT)</b> Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 1/30/2012	

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 6

**ENTITY ACTION FORM**

Operator: KERR McGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995  
Address: 1368 SOUTH 1200 EAST  
city VERNAL  
state UT zip 84078 Phone Number: (435) 781-7024

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750643	NBU 1022-8C1CS		NWNE	8	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
A	99999	2900	1/26/2012		1/31/12		
Comments: MIRU TRIPPLE A BUCKET RIG. WSMVD SPUD WELL ON 01/26/2012 AT 0730 HRS. BHL: NENW							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750642	NBU 1022-8C1AS		NWNE	8	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
A	99999	2900	1/26/2012		1/31/12		
Comments: MIRU TRIPPLE A BUCKET RIG. WSMVD SPUD WELL ON 01/26/2012 AT 1030 HRS. BHL NENW							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750640	NBU 1022-8B1DS		NWNE	8	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
	99999	2900	1/26/2012		1/31/12		
Comments: MIRU TRIPPLE A BUCKET RIG. WSMVD SPUD WELL ON 01/26/2012 AT 1330 HRS. BHL NWNE							

**ACTION CODES:**

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

SHEILA WOPSOCK

Name (Please Print)

Signature

REGULATORY ANALYST

Title

1/30/2012

Date

(5/2000)

**RECEIVED**

JAN 30 2012

DIV. OF OIL, GAS & MINING

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0466
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 1022-8C1CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0955 FNL 1742 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 08 Township: 10.0S Range: 22.0E Meridian: S		<b>9. API NUMBER:</b> 43047506430000
<b>PHONE NUMBER:</b> 720 929-6514		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 2/8/2012	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> CHANGE WELL NAME	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> CONVERT WELL TYPE	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PLUG BACK	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. MIRU AIR RIG ON FEBRUARY 5, 2012. DRILLED SURFACE HOLE TO 2570'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.		
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske		<b>PHONE NUMBER</b> 720 929-6304
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regularatory Analyst
<b>DATE</b> 2/9/2012		<b>Accepted by the</b> <b>Utah Division of</b> <b>Oil, Gas and Mining</b> <b>FOR RECORD ONLY</b> February 10, 2012

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU 0466
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well		8. WELL NAME and NUMBER: NBU 1022-8C1CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		9. API NUMBER: 43047506430000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0955 FNL 1742 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 08 Township: 10.0S Range: 22.0E Meridian: S		COUNTY: UINTAH
		STATE: UTAH

11.

CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: <b>3/13/2012</b>	<input type="checkbox"/> ACIDIZE  <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input checked="" type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION  OTHER: <input type="text"/>
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:			
<input type="checkbox"/> SPUD REPORT Date of Spud:			
<input type="checkbox"/> DRILLING REPORT Report Date:			

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The operator requests approval to deepen the well to the Blackhawk formation (part of the Mesaverde Group). The Operator also requests approval for closed loop drilling option, a surface casing change, and a production casing change. All other aspects of the previously approved drilling plan will not change. Please see the attachment. Thank you.

NAME (PLEASE PRINT) Jaime Scharnowske	PHONE NUMBER 720 929-6304	TITLE Regulatory Analyst
SIGNATURE N/A		DATE 3/13/2012

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 1022-8C1CS**

Surface:	955 FNL / 1742 FEL	NWNE
BHL:	418 FNL / 2252 FWL	NENW

Section 8 T10S R22E

Unitah County, Utah  
Mineral Lease: UTU-0466**ONSHORE ORDER NO. 1****DRILLING PROGRAM**

1. & 2. **Estimated Tops of Important Geologic Markers:**  
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1,166'	
Birds Nest	1,545'	Water
Mahogany	1,995'	Water
Wasatch	4,413'	Gas
Mesaverde	6,950'	Gas
Sego	9,095'	Gas
Castlegate	9,171'	Gas
Blackhawk	9,606'	Gas
TVD	10,206'	
TD	10,453'	

3. **Pressure Control Equipment** (Schematic Attached)

Please refer to the attached Drilling Program

4. **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Drilling Program

6. **Evaluation Program:**

Please refer to the attached Drilling Program

**7. Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 10206' TVD, approximately equals  
 6,736 psi (0.66 psi/ft = actual bottomhole gradient)

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Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 4,537 psi (bottom hole pressure  
 minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

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Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-  
 (0.22 psi/ft-partial evac gradient x TVD of next csg point))

**8. Anticipated Starting Dates:**

Drilling is planned to commence immediately upon approval of this application.

**9. Variances:**

Please refer to the attached Drilling Program.  
 Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- Blowout Prevention Equipment (BOPE) requirements;
- Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

**Background**

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may

be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.



The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

**Variance for BOPE Requirements**

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

**Variance for Mud Material Requirements**

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

**Variance for Special Drilling Operation (surface equipment placement) Requirements**

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

**Variance for FIT Requirements**

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

**Conclusion**

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

10. **Other Information:**

Please refer to the attached Drilling Program.



**KERR-McGEE OIL & GAS ONSHORE LP**  
**DRILLING PROGRAM**

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP					DATE	February 8, 2012		
WELL NAME	<b>NBU 1022-8C1CS</b>					TD	10,206'	TVD	10,453' MD
FIELD	Natural Buttes		COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION		5,186'
SURFACE LOCATION	NWNE	955 FNL	1742 FEL	Sec 8	T 10S	R 22E			
	Latitude:	39.968112	Longitude:	-109.460451		NAD 83			
BTM HOLE LOCATION	NENW	418 FNL	2252 FWL	Sec 8	T 10S	R 22E			
	Latitude:	39.969583	Longitude:	-109.465054		NAD 83			
OBJECTIVE ZONE(S)	BLACKHAWK (Part of the Mesaverde Group)								
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), BLM (Surface), UDOGM Tri-County Health Dept.								

GEOLOGICAL			MECHANICAL		
LOGS	FORMATION TOPS	DEPTH	HOLE SIZE	CASING SIZE	MUD WEIGHT
		40'		14"	
			12-1/4	8-5/8", 28#, IJ-55, LTC	Air mist
		200'			
			11.00'	8-5/8", 28#, IJ-55, LTC	Air mist

NBU 1022-8C1CS

Drilling Program  
6 of 7

## KERR-McGEE OIL & GAS ONSHORE LP

### DRILLING PROGRAM

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	COLLAPSE	LTC	DQX
CONDUCTOR	14"	0-40'							
						3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,450	28.00	IJ-55	LTC	2.20	1.64	5.79	N/A
						10,690	8,650	279,000	367,174
PRODUCTION	4-1/2"	0 to 5,000	11.60	HCP-110	DQX	1.19	1.25		3.78
	4-1/2"	5,000 to 10,453'	11.60	HCP-110	LTC	1.19	1.25	5.50	

**Surface Casing:**

(Burst Assumptions: TD = 13.0 ppg)

0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoys.Fact. of water)

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi)

0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoys.Fact. of water)

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1			+ 0.25 pps flocele				
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE		NOTE: If well will circulate water to surface, option 2 will be utilized					
Option 2	LEAD	1,950'	65/35 Poz + 6% Gel + 10 pps gilsonite	180	35%	11.00	3.82
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	3,913'	Premium Lite II +0.25 pps	310	35%	12.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	6,540'	50/50 Poz/G + 10% salt + 2% gel	1,540	35%	14.30	1.31
			+ 0.1% R-3				

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

**FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well. 1 centralizer on the first 3 joints and one every third joint thereafter.

**ADDITIONAL INFORMATION**

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

**DRILLING ENGINEER:**

Nick Spence / Danny Showers / Chad Loesel

**DATE:****DRILLING SUPERINTENDENT:**

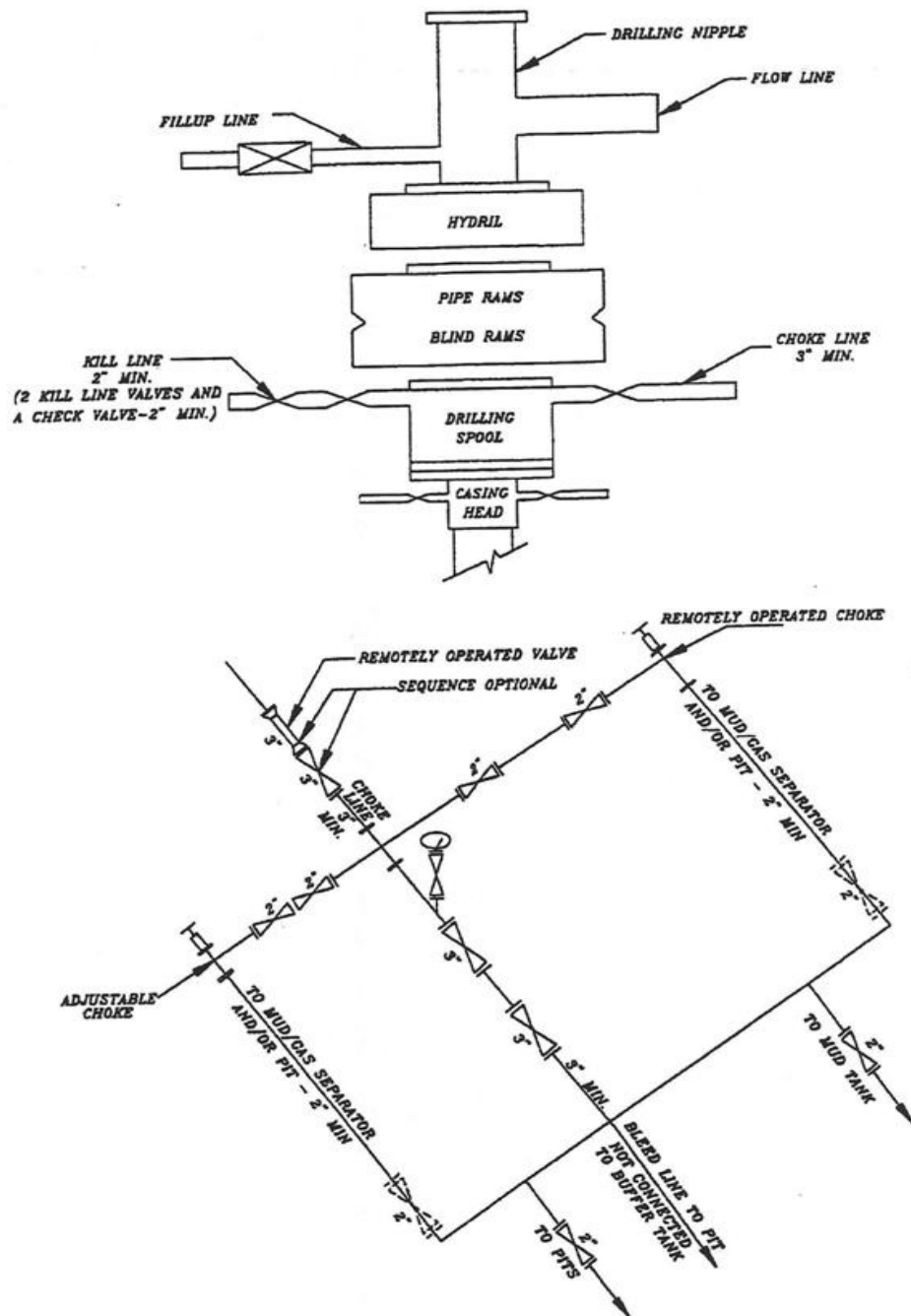
Kenny Gathings / Lovel Young

**DATE:**

RECEIVED: Mar. 13, 2012



**EXHIBIT A**  
**NBU 1022-8C1CS**



**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**

Requested Drilling Options:

Kerr-McGee will use either a closed loop drilling system that will require one pit and one cuttings storage area to be constructed on the drilling pad or a traditional drilling operation with one pit used for drilling and completion operations. The cuttings storage area will be used to contain only the de-watered drill cuttings and will be lined and bermed to prevent any liquid runoff. The drill cuttings will be buried in the completion pit once completion operations are completed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit will be lined with a synthetic material 20 mil or thicker and will be used for the completing of the wells on the pad or used as part of our Aandarko Completions Transportation System (ACTS). Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completions pit.

If Kerr-McGee does not use a closed loop drilling system, it will construct a traditional drilling/completions pit to contain drill cuttings and for use in completion operations. The pit will be lined with a synthetic material 20 mil or thicker. The drill cuttings will be buried in the pit using traditional pit closure standards.

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0466
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 1022-8C1CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0955 FNL 1742 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 08 Township: 10.0S Range: 22.0E Meridian: S		<b>9. API NUMBER:</b> 43047506430000
<b>PHONE NUMBER:</b> 720 929-6514		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 3/30/2012	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE   <input type="checkbox"/> CHANGE TO PREVIOUS PLANS   <input type="checkbox"/> CHANGE WELL STATUS   <input type="checkbox"/> DEEPEN   <input type="checkbox"/> OPERATOR CHANGE   <input type="checkbox"/> PRODUCTION START OR RESUME   <input type="checkbox"/> REPERFORATE CURRENT FORMATION   <input type="checkbox"/> TUBING REPAIR   <input type="checkbox"/> WATER SHUTOFF   <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING   <input type="checkbox"/> CHANGE TUBING   <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS   <input type="checkbox"/> FRACTURE TREAT   <input type="checkbox"/> PLUG AND ABANDON   <input type="checkbox"/> RECLAMATION OF WELL SITE   <input type="checkbox"/> SIDETRACK TO REPAIR WELL   <input type="checkbox"/> VENT OR FLARE   <input type="checkbox"/> SI TA STATUS EXTENSION   <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR   <input type="checkbox"/> CHANGE WELL NAME   <input type="checkbox"/> CONVERT WELL TYPE   <input type="checkbox"/> NEW CONSTRUCTION   <input type="checkbox"/> PLUG BACK   <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION   <input type="checkbox"/> TEMPORARY ABANDON   <input type="checkbox"/> WATER DISPOSAL   <input type="checkbox"/> APD EXTENSION           OTHER: <input style="width: 100%;" type="text"/> </div> </div>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. <div style="display: flex; justify-content: space-between;"> <div style="width: 70%;"> <p>MIRU ROTARY RIG. FINISHED DRILLING FROM 2,570' TO 10,434' ON MARCH 28, 2012. RAN 4-1/2" 11.6# P-110 PRODUCING CASING. CEMENTED PRODUCTION CASING. RELEASED SST 54 RIG ON MARCH 30, 2012 @ 19:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.</p> </div> <div style="width: 25%; text-align: center;"> <p><b>Accepted by the Utah Division of Oil, Gas and Mining</b></p> <p><b>FOR RECORD ONLY</b></p> <p>April 04, 2012</p> </div> </div>		
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 4/3/2012	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
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<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 1022-8C1CS
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<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
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12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. THE SUBJECT WELL WAS PLACED ON PRODUCTION ON JUNE 13, 2012 AT TIME 1:00 P.M. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.		
Accepted by the Utah Division of Oil, Gas and Mining <b>FOR RECORD ONLY</b> June 13, 2012		
<b>NAME (PLEASE PRINT)</b> Jenn Hawkins	<b>PHONE NUMBER</b> 720 929-6247	<b>TITLE</b> Staff Operations Specialist III
<b>SIGNATURE</b> N/A	<b>DATE</b> 6/13/2012	

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0137  
Expires: July 31, 2010

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

5. Lease Serial No.  
UTU466

1a. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Dry <input type="checkbox"/> Other			6. If Indian, Allottee or Tribe Name		
b. Type of Completion <input checked="" type="checkbox"/> New Well <input type="checkbox"/> Work Over <input type="checkbox"/> Deepen <input type="checkbox"/> Plug Back <input type="checkbox"/> Diff. Resvr. Other _____			7. Unit or CA Agreement Name and No. UTU63047A		
2. Name of Operator KERR MCGEE OIL & GAS ONSHORE Mail: cara.mahler@anadarko.com			8. Lease Name and Well No. NBU 1022-8C1CS ✓		
3. Address 1099 18TH STREET, SUITE 1800 DENVER, CO 80202			9. API Well No. 43-047-50643		
4. Location of Well (Report location clearly and in accordance with Federal requirements)* At surface NWNE 955FNL 1742FEL 39.968112 N Lat, 109.460451 W Lon At top prod interval reported below NENW 411FNL 2250FWL At total depth NENW 403FNL 3010FWL <b>BHL by HSM</b>			10. Field and Pool, or Exploratory NATURAL BUTTES		
14. Date Spudded 01/26/2012			15. Date T.D. Reached 03/28/2012		
16. Date Completed <input type="checkbox"/> D & A <input checked="" type="checkbox"/> Ready to Prod. 06/13/2012			17. Elevations (DF, KB, RT, GL)* 5183 GL		
18. Total Depth: MD 10434 TVD 10209		19. Plug Back T.D.: MD 10390 TVD 10305		20. Depth Bridge Plug Set: MD TVD	
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) ULTRA SLIM SD/DSN/ACTR-CBL/GR/CCL/TEMP			22. Was well cored? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis) Was DST run? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis) Directional Survey? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (Submit analysis)		

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
20.000	14.000 STL	36.7	0	40		28			
11.000	8.625 IJ-55	28.0	0	2514		600		0	
7.875	4.500 P-110	11.6	0	10434		1926		610	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	8960							

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) MESAVERDE	7190	9981	7190 TO 9981	0.360	211	OPEN
B)						
C)						
D)						

**RECEIVED**

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
7190 TO 9981	PUMP 12,465 BBLs SLICK H2O & 286,294 LBS 30/50 OTTAWA SAND

**JUL 31 2012**

**DIV. OF OIL, GAS & MINING**

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
06/13/2012	06/15/2012	24	→	0.0	3329.0	0.0			FLows FROM WELL
Choke Size 20/64	Tbg. Press. Flwg. 2314 SI	Csg. Press. 3072.0	24 Hr. Rate →	Oil BBL 0	Gas MCF 3329	Water BBL 0	Gas:Oil Ratio	Well Status PGW	

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #144115 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

**\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\***

## 28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

## 28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

29. Disposition of Gas(Sold, used for fuel, vented, etc.)  
SOLD

## 30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

## 31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
				GREEN RIVER BIRD'S NEST MAHOGANY WASATCH MESAVERDE	1207 1543 1898 4619 7176

## 32. Additional remarks (include plugging procedure):

The first 160' of the surface hole was drilled with a 12 ?? bit. The remainder of surface hole was drilled with an 11' bit. DQX csg was run from surface to 5033'; LTC csg was run from 5033' to 10,434'. Attached is the chronological well history, perforation report & final survey.

## 33. Circle enclosed attachments:

- |   |                    |               |                       |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.)     | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis   | 7. Other:     |                       |

## 34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #144115 Verified by the BLM Well Information System.  
For KERR MCGEE OIL & GAS ONSHORE L, sent to the Vernal

Name (please print) CARA MAHLER Title AUTHORIZED REPRESENTATIVE

Signature (Electronic Submission) Date 07/27/2012

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**\*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\***



**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-8C1CS RED

Spud Date: 2/6/2012

Project: UTAH-UINTAH

Site: NBU 1022-8B PAD

Rig Name No: SST 54/54, CAPSTAR 310/310

Event: DRILLING

Start Date: 11/15/2011

End Date: 3/30/2012

Active Datum: RKB @5,201.00usft (above Mean Sea Level)

UWI: NW/NE/0/10/S/22/E/8/0/0/26/PM/N/955/E/0/1742/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
2/5/2012	16:30 - 20:00	3.50	MIRU	01	A	P		MOVE ALL RIG EQUIPMENT OFF NBU 1022-11G2 PAD SO J & L CAN START DIRT WORK SO ENSIGN 146 CAN MOVE IN
	20:00 - 0:00	4.00	MIRU	01	A	P		WAIT ON DAYLIGHT FOR RIG SKID
2/6/2012	0:00 - 6:00	6.00	MIRU	21	C	P		WAIT ON DAYLIGHT TO MOVE RIG TO NBU 1022-8B PAD
	6:00 - 15:00	9.00	MIRU	01	A	P		MOVE RIG 13.5 MILES FROM ARCHIE'S BENCH TO NBU 1022-8B PAD 7 TRUCKS
	15:00 - 16:00	1.00	MIRU	14	A	P		WELD ON CONDUCTOR AND RIG UP FLOW LINE
	16:00 - 18:30	2.50	MIRU	08	A	Z		REPLACE BOOM ARM
	18:30 - 20:00	1.50	DRLSUR	02	C	P		SPUD WELL DRILL 12.25" HOLE F/ 40' - 160' WOB 8-28 ROT 45-60 DHR 122 GPM 680
	20:00 - 22:30	2.50	DRLSUR	06	A	P		TOOH PICK UP DIRECTIONAL TOOLS AND 11" BIT INSTALL MWD TOOL AND ORIENT TO MUD MOTOR AND TIH
	22:30 - 0:00	1.50	DRLSUR	02	C	P		DRILL 11" HOLE F/ 160' - 480' WOB 22-28 ROT 45-60 DHR 122 GPM 680 AVE ROP 215 FT HR NO LOSSES LAST SURVEY 1.06 DEG 264.18 AZI
2/7/2012	0:00 - 22:30	22.50	DRLSUR	02	C	P		DRILL 11" HOLE F/ 480' - 2570' T.D. TOTAL SLIDE 42% WOB 20-28 ROT 45-55 DHR 122 GPM 680 AIR ON AT 1450' LANDED 10' LEFT 1' HIGH LAST SURVEY 18.55 DEG 287.12 AZI
	22:30 - 23:00	0.50	DRLSUR	07	A	P		DAILY RIG SERVICE
	23:00 - 23:30	0.50	DRLSUR	05	C	P		CIRCULATE AND CONDITION MUD PRIOR TO LDDS
	23:30 - 0:00	0.50	DRLSUR	06	A	P		TOOH FOR BIT AND BHA
2/8/2012	0:00 - 3:00	3.00	DRLSUR	06	A	P		TOOH FOR BIT AND BHA L/D DIRECTIONAL TOOLS AND MWD TOOLS BREAK BIT AND MUD MOTOR
	3:00 - 4:30	1.50	DRLSUR	12	C	P		RIG UP AND RUN 58 JOINTS 8.625 28# J55 CASING SHOE AT 2508' BAFFLE AT 2464' LAST JOINT DID NOT GO TO BOTTOM HAD TO LAY IT DOWN
	4:30 - 5:00	0.50	DRLSUR	12	B	P		RIG UP CEMENTERS WHILE CIRCULATING @ 8 BBLs MIN
	5:00 - 6:30	1.50	DRLSUR	12	E	P		PRESSURE TEST LINES TO 1500 PSI. PUMP 20 BBLs OF WATER AHEAD. PUMP 20 BBLs OF 8.3# GEL WATER AHEAD. PUMP (300 SX) 61.4 BBLs OF 15.8# 1.15 YD 5 GAL/SK PREMIUM CEMENT. DROP PLUG ON FLY. DISPLACE W/ 153 BBLs OF H2O. FINAL LIFT OF 250 PSI AT 4 BBL/MIN. BUMP PLUG W/550 PSI HELD FOR 1 MIN. FLOAT DID HOLD.
	6:30 - 7:00	0.50	DRLSUR	14	A	P		CUT CONDUCTOR AND HANG OFF CASING
	7:00 - 7:00	0.00	DRLSUR	12	E	P		ENSURING CASING IN CENTER OF CONDUCTOR PUMP (300 SX) 26 BBLs OF SAME TAIL CEMENT W/ 4% CALC. (2 TOPOUTS) DOWN BACKSIDE. WAIT 1 HOURS, IN BETWEEN EACH TOPOUT, SHUT DOWN AND CLEAN TRUCK. NO CEMENT TO SURFACE. WILL TOP OUT ON NEXT JOB RELEASE RIG @ 0800
3/20/2012	2:00 - 8:00	6.00	DRLPRO	01	E	P		TEAR DOWN AND PREPARE FOR TRUCKS.

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-8C1CS RED

Spud Date: 2/6/2012

Project: UTAH-UINTAH

Site: NBU 1022-8B PAD

Rig Name No: SST 54/54, CAPSTAR 310/310

Event: DRILLING

Start Date: 11/15/2011

End Date: 3/30/2012

Active Datum: RKB @5,201.00usft (above Mean Sea Level)

UWI: NW/NE/0/10/S/22/E/8/0/0/26/PM/N/955/E/0/1742/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
3/21/2012	8:00 - 19:00	11.00	DRLPRO	01	B	P		MOVE RIG & RIG UP. 23 MILE MOVE. RW JONES HAD 12 TRUCKS, 2 FORKLIFTS, 2 PUSHERS, 3 FLAGGERS. J&C CRANES HAD CRANE, 2 TRUCKS AND 2 SWAMPERS. MOUNTAIN WEST HAD 3 TRUCKS, 1 - 1 TON, SEWER TRUCK, WATER TRUCK, 2 FLAGGERS, & 3 ROUSTABOUTS. 30% RIGGED UP. SST HAD EXTRA CREW AND PUSHER, TOTAL OF 19 PERSONNEL.
	19:00 - 0:00	5.00	DRLPRO	21	C	P		SHUT DOWN FOR NIGHT
	0:00 - 7:00	7.00	DRLPRO	21	C	P		WAIT ON DAYLIGHT
	7:00 - 15:00	8.00	DRLPRO	01	B	P		MIRU / RW JONES HAD 12 TRUCKS, 2 FORKLIFTS, 2 PUSHERS, 3 SWAMPERS / J C CRANE HAD CRANE, 2 TRUCKS, 1 - 1 TON, & 2 SWAMPERS. SST HAD EXTRA 5 MAN CREW. LAST TRUCK LEFT LOCATION @ 15:00.
	15:00 - 21:30	6.50	DRLPRO	01	B	P		RIG UP FLOOR & WINTERIZING.
	21:30 - 22:00	0.50	DRLPRO	23		P		HOLD SAFETY MEETING / RIG INSPECTION.
3/22/2012	22:00 - 0:00	2.00	DRLPRO	14	A	P		NIPPLE UP SWACO AND SMITH ROTATING HEAD. CHANGE OUT SPACER SPOOL BELOW BOP. CHANGE ROTATING BOWL.
	0:00 - 4:00	4.00	DRLPRO	14	A	P		NIPPLE UP SWACO DRILLING CHOKE & SMITH ROTATING HEAD / CHANGE OUT SPACER SPOOL ON BOP FOR HEIGHT ADJUSTMENT / SET IN ROTATING HEAD & TIGHTEN BOLTS.
	4:00 - 5:00	1.00	DRLPRO	14	A	P		NIPPLE UP CHOKE LINE
	5:00 - 10:00	5.00	DRLPRO	15	A	P		SET TEST PLUG & TEST BOP. ANNULAR 250 LOW/2500 PSI HIGH / PIPE & BLINDS RAMS, KILL LINE VALVES, CHOKE LINE VALVES, CHOKE LINE, CHOKE MANIFOLD VALVES, FLOOR VALVES, & IBOP. 250 LOW/5000 PSI HIGH. PULLED TEST PLUG & TESTED CASING TO 1500 PSI FOR 30 MINUTES.
	10:00 - 13:30	3.50	DRLPRO	14	A	P		RIG UP SMITH ORBIT VALVES& SPOOLS FOR FLOW LINE.
	13:30 - 15:00	1.50	DRLPRO	14	A	P		CUT & WELD FLOW LINE TO FIT ORBIT VALVES.
	15:00 - 15:30	0.50	DRLPRO	14	A	P		PICK UP SMITH BEARING PACK & TEST CAP
	15:30 - 20:30	5.00	DRLPRO	15	A	Z		PRESSURE TEST SMITH/SWACO SYSTEM. SEALS ON BEARING PACK FAILED / REPLACED / LEAKED / HOTSHOT NEW SEALS / WRONG / HOT SHOT MORE SEALS / GOOD.
	20:30 - 21:00	0.50	DRLPRO	15	A	P		PRESSURE TEST SMITH HEAD & ORBIT VALVES TO 1000 PSI / TEST SWACO CHOKE MANIFOLD TO 1000 PSI.
	21:00 - 22:00	1.00	DRLPRO	06	A	P		PICK UP BHA
3/23/2012	22:00 - 0:00	2.00	DRLPRO	06	A	P		RIG UP KIMZEY LAY DOWNM & PICK UP DP
	0:00 - 1:30	1.50	DRLPRO	06	A	P		PICK UP DP. TAG CEMENT @ 2429'
	1:30 - 5:00	3.50	DRLPRO	02	F	P		DRLG SHOE TRACK 2429' TO 2579'.

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-8C1CS RED

Spud Date: 2/6/2012

Project: UTAH-UINTAH

Site: NBU 1022-8B PAD

Rig Name No: SST 54/54, CAPSTAR 310/310

Event: DRILLING

Start Date: 11/15/2011

End Date: 3/30/2012

Active Datum: RKB @5,201.00usft (above Mean Sea Level)

UWI: NW/NE/0/10/S/22/E/8/0/0/26/PM/N/955/E/0/1742/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	5:00 - 7:00	2.00	DRLPRO	02	D	P		DRLG ROTATE/SLIDE/SURVEY / 2579' TO 2742' 163' @ 81.5 FPH WOB 18 TO 20K TD RPM 54 MM RPM 82 PUMPING 510 GPM / 104 SPM PSI ON/OFF 1590/1445 / DIFF 145 TORQUE ON/OFF 7150/4960 MUD WT 8.4 / VIS 27 SWACO OFF LINE. NOV RUNNING BOTH CENTRIFUGES ON DEWATER PU 112 / SO 92 / ROT 97 SLIDE 30' IN 20 MINUTES = 17% OF FOOTAGE DRILLED, 16.5% OF TIME DRILLED. 2' BELOW LINE & 2' LEFT OF LINE NO LOSSES NO FLARES
	7:00 - 7:30	0.50	DRLPRO	07	A	P		RIG SERVICE. FUNCTION BOP.
	7:30 - 8:00	0.50	DRLPRO	08	A	Z		CHANGE O-RING IN STAND PIPE
	8:00 - 0:00	16.00	DRLPRO	02	D	P		DRLG ROTATE/SLIDE/SURVEY / 2742' TO 4383' 1641' @ 102.6 FPH. WOB WHILE SLIDING 30 TO 35K WOB WHILE ROTATING 18 TO 20K TD RPM 50 MM RPM 82 PUMPING 515 GPM / 105 SPM PSI ON/OFF 1975 / 1790 / DIFF 185 TORQUE ON/OFF 10,550 / 8740 MUD WT 8.4 / VIS 27 SWACO ON LINE @ 3975' HOLDING 130 PSI BACK PRESSURE WIDE OPEN. NOV RUNNING BOTH CENTRIFUGES ON DEWATER. PU 125 / SO 105 / ROT 115 SLIDE 527' IN 295 MINUTES = 32% OF FOOTAGE DRILLED, 30.7% OF TIME DRILLED. 15' BELOW LINE & 10' RIGHT OF THE LINE NO LOSSES NO FLARES
3/24/2012	0:00 - 14:00	14.00	DRLPRO	02	D	P		DRLG ROTATE/SLIDE/SURVEY 4383' TO 5791'. 1408' @ 100.6 FPH. WOB SLIDE 30 TO 35K, ROTATE 18 TO 20K TD RPM 45 TO 50 MM RPM 82 PUMPING 515 GPM, 105 SPM PSI ON/OFF 1980 / 1750 / DIFF 230 TORQUE ON/OFF 12,660 / 11,100 MUD WT 8.4 / VIS 27 SWACO WIDE OPEN HOLD 128 PSI BACK PRESSURE. NOV RUNNING BOTH CENTRIFUGES ON DEWATER PU 160 / SO 115 / ROT 125 SLIDE 317' IN 340 MINUTES = 23% OF FOOTAGE DRILLED, 40% OF TIME DRILLED 2' N & 20 WEST OF THE LINE. HOLE SEEPING 15 BBL/HR. NO FLARE

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-8C1CS RED

Spud Date: 2/6/2012

Project: UTAH-UINTAH

Site: NBU 1022-8B PAD

Rig Name No: SST 54/54, CAPSTAR 310/310

Event: DRILLING

Start Date: 11/15/2011

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Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	14:00 - 14:30	0.50	DRLPRO	07	A	P		RIG SERVICE. FUNCTION BOP.
	14:30 - 0:00	9.50	DRLPRO	02	D	P		DRLG ROTATE/SLIDE/SURVEY 5791' TO 6494'. 703' @ 74 FPH. WOB 21K TD RPM 55 MM RPM 87 PUMPING 545 GPM / 111 SPM PSI ON/OFF 1900/1650 / DIFF 250 TORQUE ON/OFF 16,850/14,480 MUD WT 8.4 / VIS 27 SWACO WIDE OPEN HOLDING 138 PSI BACK PRESSURE NOV RUNNING BOTH CENTRIFUGES ON DEWATER PU 175 / SO 110 / ROT 125 SLIDE 94' IN 110 MINUTES = 13.37% OF FOOTAGE DRILLED, 19.81% OF TIME DRILLED. 2' N & 12' W OF THE LINE. HOLE SEEPING 10 BBL/HR. 6' FLARE WHILE DRILLING STARTING @ 6370' / 20' FLARE CONNECTION GAS. MUD LOGGER: BG GAS 30 TO 305 UNITS CONN GAS 95 TO 410 UNITS
3/25/2012	0:00 - 5:30	5.50	DRLPRO	02	D	P		DRLG ROTATE/SLIDE/SURVEY 6494' TO 6934' 440' @ 80 FPH WOB SLIDING 40 TO 45K / ROTATING 20 TO 23K TD RPM 55 MM RPM 87 PUMPING 545 GPM / 111 SPM PSI ON/OFF 2000/1660 / DIFF 340 TORQUE ON/OFF 14,700/12,480 MUD WT 8.4 / VIS 27 NOV RUNNING BOTH CENTRIFUGES ON DEWATER SWACO WIDE OPEN HOLDING 138 PSI BACK PRESSURE PU 175 / SO 110 / ROT 125 SLIDE 25' IN 50 MINUTES = 5.7% OF FOOTAGE DRILLED, 15% TIME DRILLED 2' W & 1' NORHT OF CENTER HOLE SEEPING 10 BBL/HR 6' FLARE WHILE DRILLING / 20' CONNECTION FLARE
	5:30 - 6:00	0.50	DRLPRO	22	L	Z		LOST COMMUNICATION WITH MWD / REBOOT COMPUTER

**US ROCKIES REGION**  
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Well: NBU 1022-8C1CS RED

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Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 14:00	8.00	DRLPRO	02	D	P		DRLG ROTATE/SLIDE/SURVEY 6934' TO 7602' 668' @ 83.5 FPH WOB SLIDING 45 TO 50K / ROTATING 20 TO 23K TD RPM 55 MM RPM 82 PUMPING 515 GPM / 105 SPM PSI ON/OFF 2000/1760 / DIFF 240 TORQUE ON/OFF 17,750/12,480 NOV LOST ON CENTRIFUGE@ 13:00. BEARINGS OUT.RUNNING 1 ON DEWATER SWACO HOLDING 160 PSI BACK PRESSURE WHILE DRILLING. 180 PSI SHUT IN ON CONNECTIONS PU 230 / SO 130 / ROT 165 SLIDE 22' IN 30 MINUTES = 3% OF FOOTAGE DRILLED, 6% OF TIME DRILLED. 15' N & 2' E OF CENTER SWEEPING HOLE WITH 10 BBL 45 VIS, 3% LCM PILL EACH 3 STANDS DRILLED. HOLE SEEPING 3 BBL/HR. 3' FLARE WHILE DRILLING / 8' CONNECTION FLARE RIG SERVICE / FUNCTION BOP
	14:00 - 14:30	0.50	DRLPRO	07	A	P		
	14:30 - 21:30	7.00	DRLPRO	02	D	P		DRLG ROTATE/SLIDE/SURVEY 7602' TO 8169' 567' @ 81 FPH WOB SLIDING 40K / ROTATING 18 TO 20K TD RPM 82 MM RPM 82 PUMPING 515 GPM / 105 SPM PSI ON/OFF 2180/2100 DIFF 80 TORQUE ON/OFF 20240/20240 MUD WT 9.0 / VIS 30 NOV RUNNING 1 CENTRIFUGE CONVENTIONAL SWACO HOLDING 250 PSI BACK PRESSURE DRILLING / 300 ON CONNECTION SLIDE 37' IN 70 MINUTES = 6.48% OF FOOTAGE DRILLED, 16.78% OF TIME DRILLED. 3' W & 20' N OF CENTER START LIGHT MUD UP @ 7880' TORQUE HIGH 3' FLARE WHILE DRILLING WORK TIGHT HOLE / TORQUE 20,400
	21:30 - 22:00	0.50	DRLPRO	03	A	P		
	22:00 - 0:00	2.00	DRLPRO	06	E	P		30 STD WIPER TRIP TO 4286' / PUMP & ROTATE OUT 28 STD TO 5506'
3/26/2012	0:00 - 4:00	4.00	DRLPRO	06	E	P		30 STD WIPER TRIP. PUMP & ROTATE FIRST 28 STD OUT TO 5506'. PULLED LAST 2 STD TO 5286'

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-8C1CS RED

Spud Date: 2/6/2012

Project: UTAH-UINTAH

Site: NBU 1022-8B PAD

Rig Name No: SST 54/54, CAPSTAR 310/310

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Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	4:00 - 6:00	2.00	DRLPRO	02	D	P		DRLG ROATE/SLIDE/SURVEY 8169' TO 8295'. 126' @ 63 FPH WOB SLIDING 50K / ROTATING 18 TD RPM 46 MM RPM 82 PUMPING 515 GPM / 105 SPM PSI ON/OFF 2470/2350 / DIFF 115 TORQUE ON/OFF 20,850 / 20,900 MUD WT 9.1 / VIS 34 NOV OFF LINE WHILE TRIPPING, RUNNING 1 CENTRIFUGE CONVENTIONAL SWACO HOLDING 280 PSI BACK PRESSURE WHILE DRILLING, 300 CONECTION PU 225 / SO 120 / ROT150 SLIDE 27' IN 45 MINUTES = 21% OF FOOTAGE DRILLED, 37% OF TIME DRILLED. 25' N & 5' EAST OF CENTER HOLE SEEPING 3 TO 4 BBL/DAY NO FLARE
	6:00 - 6:30	0.50	DRLPRO	02	D	P		WASH & REAM LAST SLIDE 8268' TO 8295' PU 325 TORQUE 21,500
	6:30 - 15:00	8.50	DRLPRO	02	D	P		DRLG ROTATE/SURVEY 8294 TO 8744 / 449' @ 52.8 FPH WOB 15 TO 19K TD RPM 50 TO 55 MM RPM 82 PUMPING 515 GPM / 105 SPM PSI ON/OFF 2470/2205 / DIFF 265 TORQUE ON/OFF 21,980/21,980 MUD WT 9.1 / VIS 36 NOV RUNNING 1 CENTRIFUGE CONVENTIONAL / 1 BROKEN SWACO HOLDING 280 PSI BACK PRESSURE WHILE DRLG / 300 SHUT IN ON CONNECTION. PU 275 / SO 130 / ROT 185 NO SLIDE ROTATE 449' IN 8.5 HRS = 52.8 FPH 29' N & 3' E OF CENTER HOLE SEEPING 3 BBL/HR 3 TO 4' BLUE FLARE.
	15:00 - 15:30	0.50	DRLPRO	07	A	P		RIG SERVICE / FUNCTION BOP



# US ROCKIES REGION

## Operation Summary Report

Well: NBU 1022-8C1CS RED

Spud Date: 2/6/2012

Project: UTAH-UINTAH

Site: NBU 1022-8B PAD

Rig Name No: SST 54/54, CAPSTAR 310/310

Event: DRILLING

Start Date: 11/15/2011

End Date: 3/30/2012

Active Datum: RKB @5,201.00usft (above Mean Sea Level)

UWI: NW/NE/0/10/S/22/E/8/0/0/26/PM/N/955/E/0/1742/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	15:30 - 0:00	8.50	DRLPRO	02	D	P		DRLG ROTATE/SURVEY 8744' TO 9100' / 356' @ 41.9 FPH WOB 18 TO 20K TD RPM 45 TO 50 MM RPM 78 PUMPING 491 GPM / 100 SPM PSI ON/OFF 2780/2670 / DIFF 110 TORQUE ON/OFF 11,300/11,300 MUD WT 9.5 / VIS 38 NOV OFF LINE WHILE MIXING NXS LUB IN MUD SWACO HOLDING 280 PSI BACK PRESSURE WHILE DRLG / 650 SHUT IN ON CONNECTION. PU 245 / SO 150 / ROT 185 NO SLIDE ROTATE 356' IN 8.5 HRS / 356' @ 41.9 FPH 30' N & 3' E OF CENTER HOLE SEEPING 10 BBL/HR 4' FLARE
3/27/2012	0:00 - 5:30	5.50	DRLPRO	02	D	P		DRLG ROTATE/SURVEY / 9100' TO 9327' / 227' @ 41.3 FPH WOB 18 TO 20K TD RPM 40 TO 45 MM RPM 78 PUMPING 491 GPM / 100 SPM PSI ON/OFF 2670 / 2520 / DIFF 150 TORQUE ON/OFF 13,800 / 13,800 MUD WT 9.7 / VIS 44 NOV OFF LINE WHILE MIXING NXS LUB SWACO HOLDING 320 PSI BACK PRESSURE WHILE DRILLING, 470 PSI SHUT IN ON CONNECTIONS PU 245 / SO 150 / ROT 185 NO SLIDE ROTATE 227' IN 5.5 HRS = 41.3 FPH 31' N & 3' E OF CENTER HOLE SEEPING 10 BBL/HR 4 TO 8' OF FLARE
	5:30 - 6:30	1.00	DRLPRO	08	A	Z		WORK ON SCR
	6:30 - 13:30	7.00	DRLPRO	02	D	P		DRL ROTATE/SURVEY / 9327' TO 9604' / 277' @ 39.6 FPH WOB 22 TO 24K TD RPM 40 MM RPM 78 PUMPING 491 GPM / 100 SPM PSI ON/OFF 2670 / 2520 / DIFF 150 TORQUE ON/OFF 13,800 / 12,900 MUD WT 9.7 / VIS 41 NOV RUNNING BOTH CENTRALIZERS CONVENTIONAL SWACO HOLDING 300 PSI BACK PRESSURE WHILE DRILLING, 470 PSI SHUT IN ON CONNECTIONS. PU 250 / SO 160 / ROT 195 NO SLIDE ROTATE 277' IN 7 HRS = 39.6 FPH. 29' N & 4' E OF CENTER HOLE SEEPING 10 BBL/HR 6 TO 10' FLARE

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-8C1CS RED

Spud Date: 2/6/2012

Project: UTAH-UINTAH

Site: NBU 1022-8B PAD

Rig Name No: SST 54/54, CAPSTAR 310/310

Event: DRILLING

Start Date: 11/15/2011

End Date: 3/30/2012

Active Datum: RKB @5,201.00usft (above Mean Sea Level)

UWI: NW/NE/0/10/S/22/E/8/0/0/26/PM/N/955/E/0/1742/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	13:30 - 14:00	0.50	DRLPRO	07	A	P		RIG SERVICE. FUNCTION TEST BOP
	14:00 - 0:00	10.00	DRLPRO	02	D	P		DRLG ROTATE/SURVEY 9604' TO 10,113' / 509' @ 50.9 FPH WOB 20 TO 24K TD RPM 40 TO 45 MM RPM 78 PUMPING 419 GPM / 100 SPM PSI ON/OFF 2690/2460 / DIFF 230 TORQUE ON/OFF 23,800/18,800 MUD WT 10.5 / VIS 37 NOV OFF LINE WHILE WEIGHTING UP SWACO HOLDING 525 PSI BACK PRESSURE WHILE DRILLING, 770 PSI SHUT IN ON CONNECTIONS. PU 300 / SO 150 / ROT 205 NO SLIDE ROTATE 509' IN 10 HRS = 50.9 FPH 20' N & 18' E OF CENTER HOLE SEEPING 18 BBL/HR FLARE 15 TO 25'
3/28/2012	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL,ROT,SURVEY, F/ 10,113 TO 10,434 AROP,53.5 WOB 22/24K, TDRPM 42, MMRPM 72,TOTAL RPM 124, DIFF. 342 GPM,428 PSI ON/OFF 2,845/ 2,455,TORQUE ON/OFF 23,665/20,365,ROT.100%, (10' W & 5' E OF CENTER,HOLE SEEPING 8 +/- BBL/HR MUD WT.11.5 VIS.45 ANN.PRESSURE 135 FULL OPEN,BG GAS 140,CONN. GAS 804 FLARE 5 TO 8' **TD WELL 10,434@ 06:00 3/28/12 **
	6:00 - 7:30	1.50	DRLPRO	05	A	P		CIRC.COND.MUD & MIXING LCM
	7:30 - 8:30	1.00	DRLPRO	22	O	X		CLEAN SUCTION SCREENS ON MUD PUMPS LCM & SAW DUST
	8:30 - 10:00	1.50	DRLPRO	05	A	P		CIRC.COND.MUD TO 11.8 / VIS. 45 FOR LOGS.
	10:00 - 16:00	6.00	DRLPRO	06	F	P		TOOH FOR WELLBORE CLEAN UP AND L/D DIRECTIONAL TOOLS, WORK TIGHT SPOT@ 4,550 TO 4,249 WITH 38 TO 40K OVER PULL,CONT. TRIP WITH 10 TO 12K DRAG TO SHOE@ 2,516 BIT & MOTOR BALLED UP. LAY DOWN DIR. TOOLS
	16:00 - 17:30	1.50	DRLPRO	06	F	P		MAKE UP BIT SUB & BIT TRIP IN TO SHOE W/ HW & DRILL PIPE, FILL PIPE BREAK CIRC.
	17:30 - 19:00	1.50	DRLPRO	06	E	P		CUT DRILLING LINE 165 FT.
	19:00 - 20:00	1.00	DRLPRO	09	A	P		SERVICE RIG & PIPE SPINNERS
	20:00 - 21:00	1.00	DRLPRO	07	A	P		TRIP IN TAG BRIDGE@ 8612 WASH AND REAM WORK TIGHT SPOT.
	21:00 - 0:00	3.00	DRLPRO	06	E	P		TRIP IN F/ 8,612 TO 10,434 NO FILL
3/29/2012	0:00 - 1:00	1.00	DRLPRO	06	E	P		CIRC.CLEAN BUG 820 U. MW 11.8 VIS 45
	1:00 - 3:00	2.00	DRLPRO	05	A	P		SLUG PIPE TRIP OUTTO SURFICE BREAK BIR LD BIT SUB
	3:00 - 9:30	6.50	DRLPRO	06	E	P		REMOVE ROTATING BEARING ASS. TO REMOVE WEAR BUSHING, PULL WEAR BUSHING,INSTALL BEARING ASS.
	9:30 - 11:30	2.00	DRLPRO	06	E	P		TRIP IN W/ OPEN END DP TO 6,953 73 STDS. F/ LOGS
	11:30 - 13:30	2.00	DRLPRO	06	K	P		

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-8C1CS RED

Spud Date: 2/6/2012

Project: UTAH-UINTAH

Site: NBU 1022-8B PAD

Rig Name No: SST 54/54, CAPSTAR 310/310

Event: DRILLING

Start Date: 11/15/2011

End Date: 3/30/2012

Active Datum: RKB @5,201.00usft (above Mean Sea Level)

UWI: NW/NE/0/10/S/22/E/8/0/0/26/PM/N/955/E/0/1742/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	13:30 - 14:00	0.50	DRLPRO	11	G	P		JSA SAFETY MEETING W/ HALCO.& RIG HANDS
	14:00 - 19:30	5.50	DRLPRO	11	G	P		RIG UP HALCO. RUN IN HOLE W/ ULTRA SLIM TRIPLE COMBO THROUGH DP LOGGERS DEPTH 10,430, DRILLERS DEPTH 10,434, LOG OPEN HOLE F/ 10,430 TO 8,953,LOG TO SURFICE THROUGH DP RIG DOWN HALCO.WIRELINE
	19:30 - 20:00	0.50	DRLPRO	11	G	P		TRIP OUT W/DP TO RUN CASING
	20:00 - 22:00	2.00	DRLPRO	06	G	P		JSA SAFETY MEETING,RIG UP LAY DOWN MACHINE & CASING TOOLS
	22:00 - 0:00	2.00	DRLPRO	12	C	P		RUN CASING CASING RAN AS FOLLOWS RAN 129 JTS OF 4.5", 11.6#, P-110, LT&C CASING & 112 JTS OF 4.5", 11.6#, P-110, DQX CASING TOTAL JTS. 241, WITH WEATHERFORD FLOAT SHOE & FLOAT COLLAR PLACED 1 JT ABOVE SHOE. 17 CENTRALIZERS SPACED @ 15' ABOVE SHOE, TOP OF SECOUND COLLARS, & EVERY 3RD COLLAR TO 7,995' 2 MARKER JOINTS AT 6,831' & 4,985 + X-OVER AT 4,985, LAND CASING @ 10,433' PU 155K. SO 100K. STRING WT 135K
3/30/2012	0:00 - 9:30	9.50	CSGPRO	12	C	P		W/O/ BJ CEMENT SER. CIRC. COND. HOLE FOR CEMENT. SPOT PUMP TRUCKS@ 10:00 W/O/CEMENT TRUCK FROM VERNAL SAFETY MEETING & RIG UP, TEST LINES 5,000 Primary CEMENT JOB PRODUCTION CASING- 4.500 in
	9:30 - 13:00	3.50	CSGPRO	05	A	P		CEMENT 4 1/2 CASING AS FOLLOWS PUMP 5 BBLS OF FRESH WATER SPACER FOLLOW WITH 40 bBLS SEAL BOND SPACER MIX AND PUMP LEAD CEMENT 415 SKS.@12 PPB YLD 2.26 MIX WATER GPS 12.48, 167 Bbls. MIX AND PUMP TAIL CEMENT 1,511 SKS @14.3 PPB. YLD 1.31 MIX WATER GPS 5.91 352 Bbls,SHUT DOWN. WASH LINES. DROP PLUG DISPLACE @ 7 BPM W/ 161 Bbls.FRESH WATER + CLAYCARE + 1 GAL. MAGNACIDE. LOST RETURNS WHEN WE STARTED DISPLACEMENT STOPED AROUND 100 Bbls AWAY TO SEE IF ANY THING WOULD FALL TO REGANE RETURNS NO LUCK SLOW TO 5BPM, BUMP PLUG 2889 TO 3568 PSI HOLD 5 MINS.BLEAD BACK FLOATS HELD 1,75 Bbls. BACK, RIG DOWN B J SERVICE. GOOD LIFT 2785 PSI NO CEMENT TO SURFICE.CALCULATED CEMENT TOP 1585
	10:00 - 1:00		CSGPRO					ADD.PL2+6%Gel+5#KOL+0.4%SMS+0.25#CF+0.3% R-3
	13:00 - 16:30	3.50	CSGPRO	12	B	P		50:50:2+10%NaCL+0.2%R-3+0.05#SF+0.002FP-6L NIPPLE DOWN BOP SET SLIPS WITH 115K CSG. WT. PUMP MUD TO STORAGE TANKS CLEAN PITS. VERY SMALL AMOUNT OF CUTTINGS GUN LINE WORKING GOOD.
	16:30 - 18:00	1.50	CSGPRO	14	A	P		***RELEASE RIG 3/30/12@ 19:00***
	18:00 - 19:00	1.00	RDMO	01	C	P		

## 1 General

### 1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

### 1.2 Well/Wellbore Information

Well	NBU 1022-8C1CS RED	Wellbore No.	OH
Well Name	NBU 1022-8C1CS	Wellbore Name	NBU 1022-8C1CS
Report No.	1	Report Date	5/11/2012
Project	UTAH-UINTAH	Site	NBU 1022-8B PAD
Rig Name/No.		Event	COMPLETION
Start Date	5/11/2012	End Date	6/13/2012
Spud Date	2/6/2012	Active Datum	RKB @5,201.00usft (above Mean Sea Level)
UWI	NW/NE/0/10/S/22/E/8/0/0/26/PM/N/955/E/0/1742/0/0		

### 1.3 General

Contractor		Job Method		Supervisor	
Perforated Assembly		Conveyed Method			

### 1.4 Initial Conditions

Fluid Type		Fluid Density		Gross Interval	7,190.0 (usft)-9,981.0 (usft)	Start Date/Time	5/14/2012 12:00AM
Surface Press		Estimate Res Press		No. of Intervals	39	End Date/Time	5/14/2012 12:00AM
TVD Fluid Top		Fluid Head		Total Shots	211	Net Perforation Interval	64.00 (usft)
Hydrostatic Press		Press Difference		Avg Shot Density	3.30 (shot/ft)	Final Surface Pressure	
Balance Cond	NEUTRAL					Final Press Date	

### 1.5 Summary

## 2 Intervals

### 2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
5/14/2012 12:00AM	MESAVERDE/			7,190.0	7,192.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
5/14/2012 12:00AM	MESAVERDE/			7,256.0	7,259.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			7,312.0	7,315.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			7,443.0	7,445.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			7,474.0	7,476.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			7,524.0	7,526.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			7,617.0	7,618.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			7,634.0	7,635.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			7,748.0	7,749.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			7,769.0	7,770.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			7,786.0	7,787.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			7,834.0	7,836.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			7,862.0	7,863.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			7,906.0	7,907.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			7,951.0	7,952.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			7,988.0	7,990.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			8,043.0	8,045.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			8,142.0	8,143.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			8,380.0	8,381.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			8,414.0	8,416.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			8,468.0	8,471.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			8,556.0	8,558.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
5/14/2012 12:00AM	MESAVERDE/			8,636.0	8,638.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			8,680.0	8,682.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			8,722.0	8,724.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			8,771.0	8,772.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			8,800.0	8,801.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			8,813.0	8,815.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			8,869.0	8,871.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			8,922.0	8,924.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			8,999.0	9,000.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			9,034.0	9,035.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			9,082.0	9,083.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			9,114.0	9,115.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			9,168.0	9,169.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			9,218.0	9,220.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			9,918.0	9,920.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			9,950.0	9,952.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
5/14/2012 12:00AM	MESAVERDE/			9,979.0	9,981.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	

## 3 Plots



**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-8C1CS RED

Spud Date: 2/6/2012

Project: UTAH-UINTAH

Site: NBU 1022-8B PAD

Rig Name No: GWS 1/1

Event: COMPLETION

Start Date: 5/11/2012

End Date: 6/13/2012

Active Datum: RKB @5,201.00usft (above Mean Sea Level)

UWI: NW/NE/0/10/S/22/E/8/0/0/26/PM/N/955/E/0/1742/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
2/6/2012	-							
5/13/2012	10:00 - 11:30	1.50	COMP	33		P		RU HOT OILER, SURFACE HAD 100 PSI. FILLED SURFACE WITH 1-2 BBLS H2O PUMPED 10 BBLS & 1-1 1/2 BPM & 250 PSI, ISIP 250 PSI, WELL DIDNIT BLEED DOWN SWI, MOVE TO NEXT WELL
5/14/2012	14:00 - 17:00	3.00	COMP	51		P		RU HALCO, ESTABLISHED INJECTION RATE @ 3BPM, 732 PSI PUMPED 10 BBLS PUMPED 12 BBLS, SUPER FLUSH SPACER. WITH 10 BBL, FRESH WATER SPACER MIXED AND PUMPED 530 SXS HALCO SQUEEZE SYSTEM, CLASS G CEMENT 229 SLURRY @ 12.5 PPG , YIELD 2.26 FT 3/SK WATER 12.9 GAL / SK. DISPLACED WITH 3 BBLS FW, TO CLEAR PIMP & LINES SWI W/ 240 PSI
5/23/2012	7:30 - 9:00	1.50	COMP	33		P		FILL SURFACE CSG. MIRU B&C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 19 PSI. PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 25 PSI. 1ST PSI TEST T/ 9000 PSI. HELD FOR 30 MIN LOST 69 PSI. NO COMMUNICATION WITH SURFACE CSG BLEED OFF PSI. MOVE T/ NEXT WELL. SWFW
5/24/2012	7:00 - 12:00	5.00	COMP	37		P		PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH PERF AS PER PERF DESIGN. POOH. SWFW
5/25/2012	-							
5/26/2012	-							
5/29/2012	15:00 - 18:00	3.00	COMP	36	B	P		FRAC STG 1)WHP 1665 PSI, BRK 3500 PSI @ 4.9 BPM. ISIP 2819 PSI, FG .72. CALC HOLES OPEN @ 52 BPM @ 5692 PSI = 100% HOLES OPEN. (24/24 HOLES OPEN) ISIP 3554 PSI, FG .80, NPI 735 PSI. MP 7252 PSI, MR 52.9 BPM, AP 5857 PSI, AR 52.2 BPM PUMPED 30/50 SAND IN THIS STAGE. SWFN.

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-8C1CS RED

Spud Date: 2/6/2012

Project: UTAH-UINTAH

Site: NBU 1022-8B PAD

Rig Name No: GWS 1/1

Event: COMPLETION

Start Date: 5/11/2012

End Date: 6/13/2012

Active Datum: RKB @5,201.00usft (above Mean Sea Level)

UWI: NW/NE/0/10/S/22/E/8/0/0/26/PM/N/955/E/0/1742/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
5/30/2012	8:00 - 18:00	10.00	COMP	36	B	P		<p>PERF STG 2)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 9250' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 2)WHP 1175 PSI, BRK 2363 PSI @ 4.7 BPM. ISIP 1957 PSI, FG .65. CALC HOLES OPEN @ 51.6 BPM @ 4716 PSI = 100% HOLES OPEN. (21/21 HOLES OPEN) ISIP 2412 PSI, FG .70, NPI 455 PSI. MP 5178 PSI, MR 52.8 BPM, AP 4576 PSI, AR 52.4 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL</p> <p>PERF STG 3)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 8954' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 3)WHP 2113 PSI, BRK 2402 PSI @ 4.4 BPM. ISIP 2144 PSI, FG .68. CALC HOLES OPEN @ 52.3 BPM @ 4368 PSI = 100% HOLES OPEN. (24/24 HOLES OPEN) ISIP 2480 PSI, FG .72, NPI 336 PSI. MP 5035 PSI, MR 52.7 BPM, AP 4463 PSI, AR 52.2 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL</p> <p>PERF STG 4)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 8754' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 4)WHP 843 PSI, BRK 2738 PSI @ 4.4 BPM. ISIP 2029 PSI, FG .67. CALC HOLES OPEN @ 50.1 BPM @ 4484 PSI = 100% HOLES OPEN. (24/24 HOLES OPEN) ISIP 2680 PSI, FG .75, NPI 651 PSI. MP 5089 PSI, MR 50.4 BPM, AP 4622 PSI, AR 50 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL</p> <p>PERF STG 5)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 8501' P/U PERF AS PER DESIGN. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 5)WHP 1336 PSI, BRK 2427 PSI @ 4.2 BPM. ISIP 1755 PSI, FG .65. CALC HOLES OPEN @ 50.5 BPM @ 3970 PSI = 100% HOLES OPEN. (24/24 HOLES OPEN) ISIP 2241 PSI, FG .70, NPI 486 PSI. MP 4894 PSI, MR 50.8 BPM, AP 4073 PSI, AR 50.5 BPM</p>

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-8C1CS RED

Spud Date: 2/6/2012

Project: UTAH-UINTAH

Site: NBU 1022-8B PAD

Rig Name No: GWS 1/1

Event: COMPLETION

Start Date: 5/11/2012

End Date: 8/13/2012

Active Datum: RKB @5,201.00usft (above Mean Sea Level)

UWI: NW/NE/0/10/S/22/E/8/0/0/26/PM/N/955/E/0/1742/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
								PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L
								PERF STG 6)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 8173' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.
								FRAC STG 6)WHP 568 PSI, BRK 2292 PSI @ 4.4 BPM. ISIP 1575 PSI, FG .63. CALC HOLES OPEN @ 50.3 BPM @ 4680 PSI = 95% HOLES OPEN. (21/22 HOLES OPEN) ISIP 2484 PSI, FG .75, NPI 909 PSI. MP 5689 PSI, MR 50.5 BPM, AP 4853 PSI, AR 50.3 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE. SWMFN.
5/31/2012	8:30 - 18:00	9.50	COMP	36	B	P		PERF STG 7)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 7893' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.
								FRAC STG 7)WHP 804 PSI, BRK 2102 PSI @ 3.7 BPM. ISIP 1470 PSI, FG .63. CALC HOLES OPEN @ 50 BPM @ 4669 PSI = 83% HOLES OPEN. (20/24 HOLES OPEN) ISIP 2445 PSI, FG .75, NPI 975 PSI. MP 5952 PSI, MR 50.1 BPM, AP 5175 PSI, AR 49.9 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L
								PERF STG 8)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 7556' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.
								FRAC STG 8)BEFORE OPENING WELL. BLENDER DISCHARGE PUMP WENT DOWN. COULD NOT MAKE REPAIRS ON LOC. WORK ON BLENDER FOR 4 1/2 HRS. RD BLENDER. RU NEW BLENDER. SWMFN. HSM. HIGH PSI LINES, WL AWAIRNESS.
6/1/2012	6:45 - 7:00	0.25	COMP	48		P		

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-8C1CS RED

Spud Date: 2/6/2012

Project: UTAH-UINTAH

Site: NBU 1022-8B PAD

Rig Name No: GWS 1/1

Event: COMPLETION

Start Date: 5/11/2012

End Date: 6/13/2012

Active Datum: RKB @5,201.00usft (above Mean Sea Level)

UWI: NW/NE/0/10/S/22/E/8/0/0/26/PM/N/955/E/0/1742/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 18:00	11.00	COMP	36	B	P		<p>FRAC STG 8)WHP 1017 PSI, BRK 1975 PSI @ 4.7 BPM. ISIP 1509 PSI, FG .64. CALC HOLES OPEN @ 42.1 BPM @ 3567 PSI = 93% HOLES OPEN. (22/24 HOLES OPEN) ISIP 2363 PSI, FG .75, NPI 854 PSI. MP 4999 PSI, MR 46.6 BPM, AP 4309 PSI, AR 43.3 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L</p> <p>PERF STG 9)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 7345' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 9)WHP 841 PSI, BRK 1950 PSI @ 2.8 BPM. ISIP 1365 PSI, FG .63. CALC HOLES OPEN @ 51.3 BPM @ 3971 PSI = 100% HOLES OPEN. (24/24 HOLES OPEN) ISIP 2406 PSI, FG .77, NPI 1041 PSI. MP 5506 PSI, MR 52.1 BPM, AP 3907 PSI, AR 51.3 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L</p> <p>PU 4 1/2 8K HAL CBP. RIH SET KILL PLUG @ 7140'. POOH. SWI. DONE FRACING THIS WELL.</p> <p>TOTAL SAND = 286,294 LBS TOTAL CLFL = 12,465 BBLS HSM, SLIPS, TRIPS &amp; FALLS, PU TBG RABBITTING TBG</p>
6/12/2012	7:00 - 7:15	0.25		48		P		

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-8C1CS RED

Spud Date: 2/6/2012

Project: UTAH-UINTAH

Site: NBU 1022-8B PAD

Rig Name No: GWS 1/1

Event: COMPLETION

Start Date: 5/11/2012

End Date: 6/13/2012

Active Datum: RKB @5,201.00usft (above Mean Sea Level)

UWI: NW/NE/0/10/S/22/E/8/0/0/26/PM/N/955/E/0/1742/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 17:00	9.75		31	I	P		<p>(RU 6/11/12), PU 3 7/8" BIT, POBS, XN S/N, PU TBG, RU P/S, FILL TBG BREAK CIRC, P/T BOP TO 4,500 PSI NO VISIBLE LEAKS, START D/O PLUGS, SURFACE CSG VALVE OPEN &amp; LOCKED.</p> <p>C/O 5' SAND, TAG 1ST PLUG @ 7,155' DRL PLUG IN 9 MIN. 250 PSI INCREASE RIH, CSG PRESS 0 PSI. WELL FLOWING ON IT'S OWN.</p> <p>C/O 20' SAND, TAG 2ND PLUG @ 7,340' DRL PLUG IN 10 MIN. 300 PSI INCREASE RIH, CSG PRESS 0 PSI. WELL FLOWING ON IT'S OWN.</p> <p>C/O 20' SAND, TAG 3RD PLUG @ 7,560' DRL PLUG IN 12 MIN. 200 PSI INCREASE RIH, CSG PRESS 50 PSI.</p> <p>C/O 20' SAND, TAG 4TH PLUG @ 7,892' DRL PLUG IN 11 MIN. 400 PSI INCREASE RIH, CSG PRESS 375 PSI.</p> <p>C/O 30' SAND, TAG 5TH PLUG @ 8,180' DRL PLUG IN 10 MIN. 500 PSI INCREASE RIH, CSG PRESS 500 PSI.</p> <p>C/O 25' SAND, TAG 6TH PLUG @ 8,510' DRL PLUG IN 11 MIN. 500 PSI INCREASE RIH, CSG PRESS 500 PSI.</p> <p>LET WELL CLEAN UP FOR 20 MIN, SWI, SDFN.</p>
6/13/2012	7:00 - 7:15	0.25		48		P		<p>HSM, SLIPS, TRIPS &amp; FALLS, BLEEDING OFF PSI, D/O PLUGS</p>

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-8C1CS RED

Spud Date: 2/6/2012

Project: UTAH-UINTAH

Site: NBU 1022-8B PAD

Rig Name No: GWS 1/1

Event: COMPLETION

Start Date: 5/11/2012

End Date: 6/13/2012

Active Datum: RKB @5,201.00usft (above Mean Sea Level)

UWI: NW/NE/O/10/S/22/E/8/O/0/26/PM/N/955/E/O/1742/O/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 14:00	6.75		44	C	P		<p>SICP 3,300 PSI, BLEED OFF PSI, C/O 2" BALL VALVE IN FLOWLINE, OPEN RAMS, D/O REMAINING PLUGS, SURFACE CSG OPEN &amp; LOCKED.</p> <p>C/O 15' SAND, TAG 7TH PLUG @ 8,762' DRL PLUG IN 10 MIN. 600 PSI INCREASE RIH, CSG PRESS 300 PSI.</p> <p>C/O 20' SAND, TAG 8TH PLUG @ 8,960' DRL PLUG IN 10 MIN. 500 PSI INCREASE RIH, CSG PRESS 400 PSI.</p> <p>C/O 15' SAND, TAG 9TH PLUG @ 9,247' DRL PLUG IN 11 MIN. 600 PSI INCREASE RIH, CSG PRESS 700 PSI. ((WASHED OUT 2 TEE'S ON FLOWLINE))</p> <p>PBTD @ 10,388', BTM PERF @ 9,981', RIH TO 10,105' NO TAG, 124' PAST BTM PERF W/ 318 JTS 2 3/8" P-110 TBG, LD 36 JTS, PU &amp; STRIP IN TBG HANGER &amp; LAND TBG W/ 282 JTS 2 3/8" P-110, EOT 8,959.65'.</p> <p>RD POWER SWMVEL, FLOOR &amp; TBG EQUIP, ND BOPS, NU WH, DROP BALL TO SHEAR OFF BIT W/ 2,700 PSI, LET BIT FALL FOR 20 MIN. P/T FLOW LINE FROM WH TO HAL 9000 TO 4,000 PSI W/ RIG PUMP, NO VISIBLE LEAKS.</p> <p>TURN OVER TO FLOW BACK CREW. RD &amp; MOVE TO LAST WELL ON PAD.</p> <p>KB= 18' 4 1/16" WEATHERFORD HANGER= .83' TBG DELIVERED 314 JTS 282 JTS 2 3/8" P-110 = 8,938.62' TBG USED 282 JTS POBS= 2.20' TBG RETURNED 32 JTS EOT @ 8,959.65'</p> <p>TWTR= 12,465 BBLS TWR= 3,500 BBLS TWLTR= 8,965 BBLS WELL TURNED TO SALES @ 1300 HR ON 6/13/2012, 3500 MCFD, 1920 BWPD, FCP 2645#, FTP 2500#, 20/64" CK. WELL IP'D ON 6/15/12 - 3329 MCFD, 0 BOPD, 0 BWPD, CP 3072#, FTP 2314#, CK 20/64", LP 127#, 24 HRS</p>
	13:00 - 14:00	1.00		50				
6/15/2012	7:00 -			50				



Project: UTAH - UTM (feet), NAD27, Zone 12N  
 Site: UINTAH NBU 1022 8B PAD  
 Well: NBU 1022-8C1CS  
 Wellbore: NBU 1022-8C1CS  
 Section:  
 SHL:  
 Design: NBU 1022-8C1CS  
 Latitude: 39.968147  
 Longitude: -109.459767  
 GL: 5185.60  
 KB: 18' RKB + GL @ 5203.60ft (SST 54)

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1170.00	1179.98	GREEN RIVER
1549.00	1586.08	BIRDS NEST
1999.00	2076.67	MAHOGANY MARKER
4417.00	4625.58	WASATCH
5017.00	5240.11	TOP OF THE CYLINDER
6954.00	7178.00	MESAVERDE
9099.00	9323.03	SEGO
9175.00	9399.03	CASTLEGATE
9610.00	9834.03	BLACKHAWK

#### WELL DETAILS: NBU 1022-8C1CS

+N/-S	+E/-W	Northing	Ground Level: Easting	Latitude	Longitude	Slot
0.00	0.00	14518172.28	2071981.26	39.968147	-109.459767	

#### CASING DETAILS

TVD	MD	Name	Size
2411.90	2513.47	8-5/8"	8-5/8"



Azimuths to True North  
 Magnetic North: 10.96°

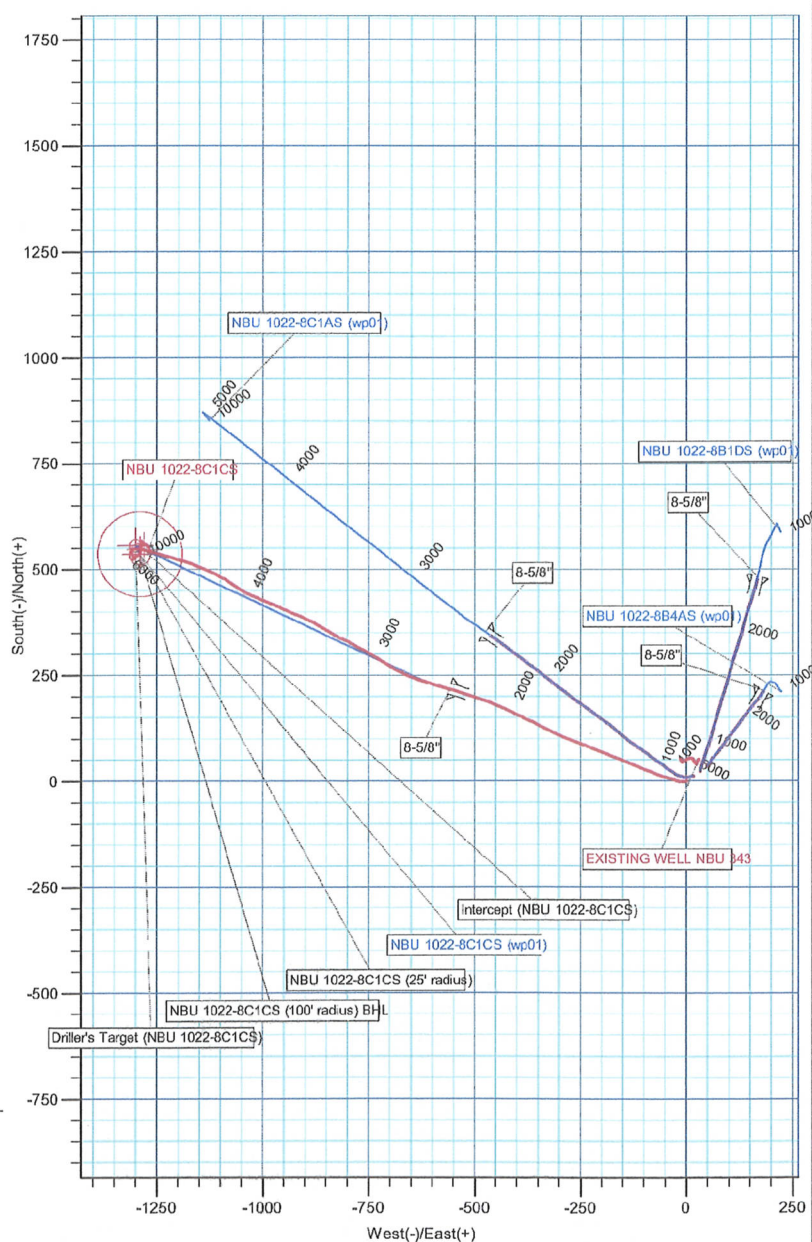
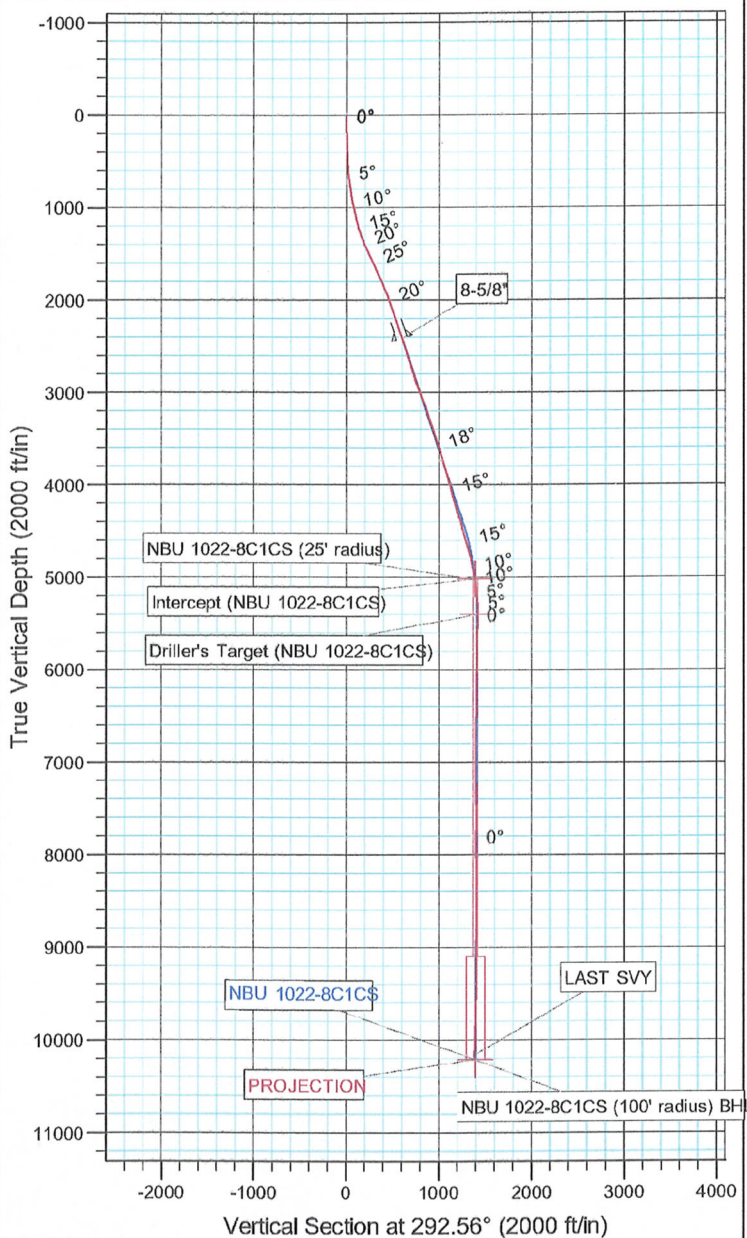
Magnetic Field  
 Strength: 52241.7anT  
 Dip Angle: 65.83°  
 Date: 3/12/2012  
 Model: KGRF2010

#### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Intercept (NBU 1022-8C1CS)	5017.00	546.24	-1279.61	14518696.34	2070692.41	39.969647	-109.464333	Point
NBU 1022-8C1CS (25' radius)	5017.00	535.79	-1289.96	14518685.71	2070682.25	39.969618	-109.464370	Circle (Radius: 25.00)
Driller's Target (NBU 1022-8C1CS)	5400.00	555.79	-1299.96	14518705.53	2070671.90	39.969673	-109.464406	Circle (Radius: 15.00)
NBU 1022-8C1CS (100' radius) BHL	10210.00	535.79	-1289.96	14518685.71	2070682.25	39.969618	-109.464370	Circle (Radius: 100.00)

#### SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSEct
2519.00	18.55	287.12	2417.14	219.26	-560.42	0.00	0.00	601.65
2669.00	18.55	287.12	2559.35	233.31	-606.02	0.00	0.00	649.16
2796.20	18.30	295.14	2680.05	247.75	-643.45	2.00	99.39	689.26
4578.17	18.30	295.14	4371.88	485.44	-1150.03	0.00	0.00	1248.27
5623.99	0.00	0.00	5400.00	555.79	-1299.96	1.75	180.00	1413.71
5713.62	0.27	153.43	5489.64	555.60	-1299.87	0.30	153.43	1413.55
10434.04	0.27	153.43	10210.00	535.79	-1289.96	0.00	0.00	1396.80

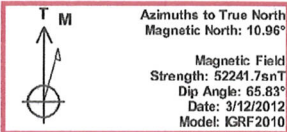




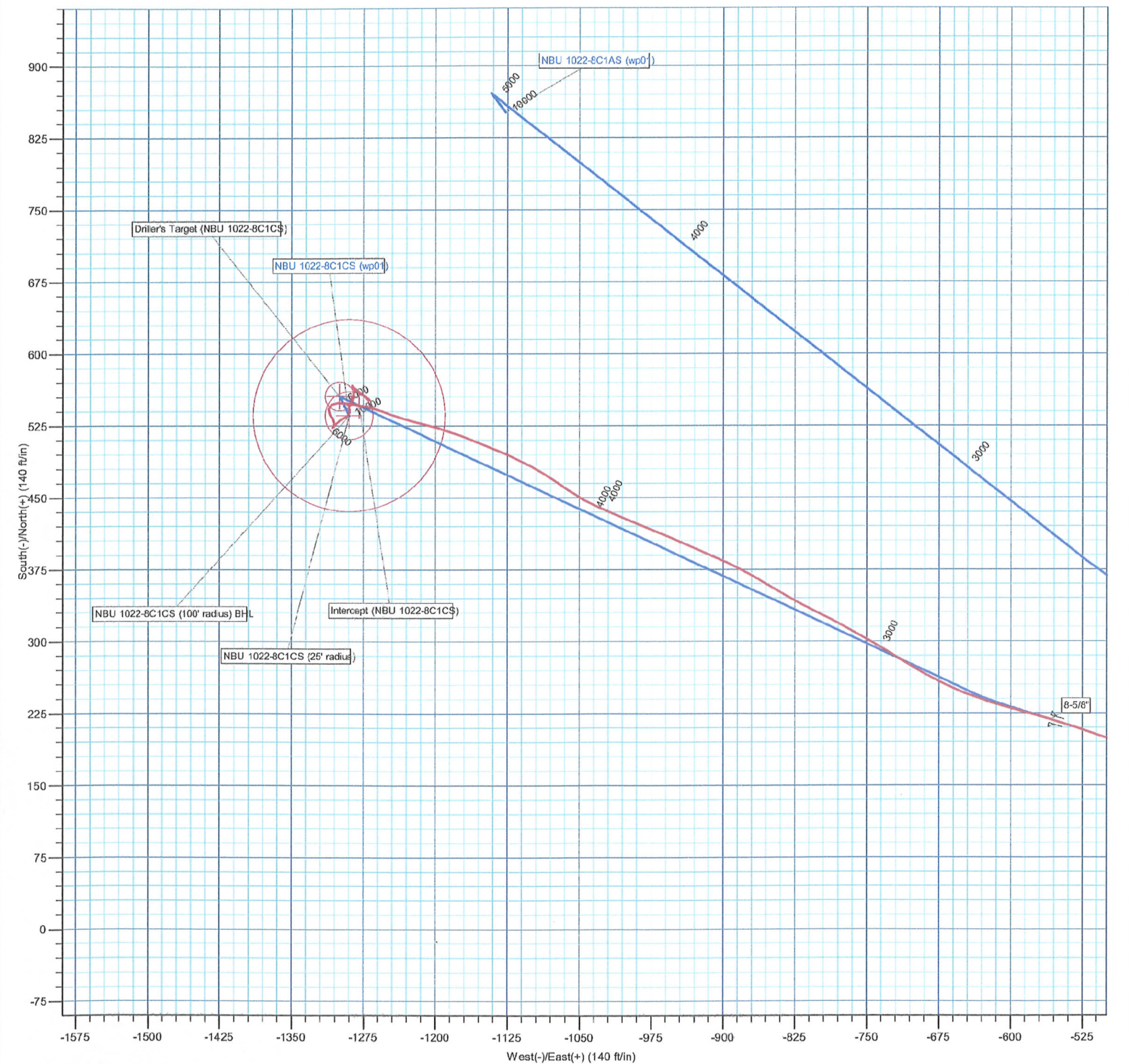
FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1170.00	1179.98	GREEN RIVER
1549.00	1586.08	BIRDS NEST
1999.00	2076.67	MAHOAGANY MARKER
4417.00	4625.58	WASATCH
5017.00	5240.11	TOP OF THE CYLINDER
6954.00	7178.00	MESAVERDE
9099.00	9323.03	SEGO
9175.00	9399.03	CASTLEGATE
9610.00	9834.03	BLACKHAWK

WELL DETAILS: NBU 1022-8C1CS						
+N/-S	+E/-W	Northing	Ground Level: Easting	5185.60 Latitude	Longitude	Slot
0.00	0.00	14518172.28	2071981.26	39.968147	-109.459767	

CASING DETAILS			
TVD	MD	Name	Size
2411.90	2513.47	8-5/8"	8-5/8



DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Nothing	Easting	Latitude	Longitude	Shape
Intercept (NBU 1022-8C1CS)	5017.00	546.24	-1279.61	14518696.34	2070692.41	39.969647	-109.464333	Point
NBU 1022-8C1CS (25' radius)	5017.00	535.79	-1289.96	14518685.71	2070682.25	39.969618	-109.464370	Circle (Radius: 25.00)
Driller's Target (NBU 1022-8C1CS)	5400.00	555.79	-1299.96	14518705.53	2070671.90	39.969673	-109.464406	Circle (Radius: 15.00)
NBU 1022-8C1CS (100' radius) BHL	10210.00	535.79	-1289.96	14518685.71	2070682.25	39.969618	-109.464370	Circle (Radius: 100.00)



# Anadarko Petroleum Corp

## Survey Report

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-8C1CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	18' RKB + GL @ 5203.60ft (SST 54)
<b>Site:</b>	UINTAH_NBU 1022 8B PAD	<b>MD Reference:</b>	18' RKB + GL @ 5203.60ft (SST 54)
<b>Well:</b>	NBU 1022-8C1CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 1022-8C1CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 1022-8C1CS	<b>Database:</b>	edmp

<b>Project</b>	UTAH - UTM (feet), NAD27, Zone 12N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	UINTAH_NBU 1022 8B PAD				
<b>Site Position:</b>		<b>Northing:</b>	14,518,172.28 usft	<b>Latitude:</b>	39.968147
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,071,981.26 usft	<b>Longitude:</b>	-109.459767
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.99 °

<b>Well</b>	NBU 1022-8C1CS					
<b>Well Position</b>	+N/-S	0.00 ft	<b>Northing:</b>	14,518,172.28 usft	<b>Latitude:</b>	39.968147
	+E/-W	0.00 ft	<b>Easting:</b>	2,071,981.26 usft	<b>Longitude:</b>	-109.459767
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	5,185.60 ft

<b>Wellbore</b>	NBU 1022-8C1CS				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	3/12/2012	10.96	65.83	52,242

<b>Design</b>	NBU 1022-8C1CS				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	9.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	9.00	0.00	0.00	292.56	

<b>Survey Program</b>	<b>Date</b>	3/29/2012		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
245.00	2,519.00	Survey #1 (NBU 1022-8C1CS)	MWD	MWD - STANDARD
2,586.00	10,434.00	Survey #2 (NBU 1022-8C1CS)	MWD	MWD - STANDARD

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
9.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	
245.00	1.06	264.18	244.99	-0.22	-2.17	1.92	0.45	0.45	0.00	
337.00	2.20	258.74	336.95	-0.65	-4.75	4.14	1.25	1.24	-5.91	
427.00	3.17	264.62	426.85	-1.22	-8.92	7.77	1.12	1.08	6.53	
521.00	3.96	277.72	520.67	-1.03	-14.73	13.20	1.20	0.84	13.94	
614.00	5.36	287.65	613.36	0.72	-22.05	20.64	1.73	1.51	10.68	
709.00	6.94	288.92	707.81	3.92	-31.71	30.79	1.67	1.66	1.34	
803.00	8.18	288.95	800.99	7.72	-43.48	43.11	1.35	1.32	-2.10	
897.00	9.94	289.32	893.81	12.35	-57.53	57.87	1.91	1.87	2.52	
991.00	11.64	290.01	986.15	18.28	-74.10	75.44	1.81	1.81	0.73	

# Anadarko Petroleum Corp

## Survey Report

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UINTAH\_NBU 1022 8B PAD  
**Well:** NBU 1022-8C1CS  
**Wellbore:** NBU 1022-8C1CS  
**Design:** NBU 1022-8C1CS

**Local Co-ordinate Reference:** Well NBU 1022-8C1CS  
**TVD Reference:** 18' RKB + GL @ 5203.60ft (SST 54)  
**MD Reference:** 18' RKB + GL @ 5203.60ft (SST 54)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** edmp

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,084.00	13.28	291.87	1,076.96	25.47	-92.83	95.50	1.82	1.76	2.00
1,176.00	15.04	292.93	1,166.16	34.06	-113.63	118.00	1.93	1.91	1.15
1,271.00	17.52	292.60	1,257.34	44.36	-138.19	144.63	2.61	2.61	-0.35
1,365.00	20.67	291.13	1,346.16	55.78	-166.73	175.37	3.39	3.35	-1.56
1,460.00	23.56	291.02	1,434.16	68.63	-200.10	211.12	3.04	3.04	-0.12
1,555.00	24.84	292.08	1,520.81	82.94	-236.31	250.05	1.42	1.35	1.12
1,650.00	25.24	291.69	1,606.88	97.93	-273.63	290.26	0.46	0.42	-0.41
1,746.00	24.71	294.86	1,693.91	113.93	-310.85	330.78	1.50	-0.55	3.30
1,841.00	24.36	297.06	1,780.33	131.19	-346.32	370.15	1.03	-0.37	2.32
1,934.00	22.69	296.00	1,865.60	147.78	-379.52	407.18	1.85	-1.80	-1.14
2,029.00	19.79	294.66	1,954.14	162.58	-410.59	441.54	3.08	-3.05	-1.20
2,123.00	19.61	293.89	2,042.64	175.66	-439.45	473.21	0.40	-0.19	-1.03
2,217.00	19.52	291.62	2,131.21	187.81	-468.48	504.69	0.85	-0.10	-2.52
2,312.00	18.82	288.66	2,220.94	198.59	-497.75	535.85	1.17	-0.74	-2.78
2,408.00	18.55	288.39	2,311.88	208.42	-526.89	566.53	0.33	-0.28	-0.51
2,502.00	18.47	287.65	2,401.02	217.65	-555.27	596.28	0.26	-0.09	-0.79
2,519.00	18.55	287.12	2,417.14	219.26	-560.42	601.65	1.10	0.47	-3.12
2,586.00	18.10	284.14	2,480.74	224.94	-580.70	622.56	1.55	-0.67	-4.45
2,682.00	17.77	286.77	2,572.08	232.81	-609.18	651.89	0.91	-0.34	2.74
2,777.00	16.70	289.54	2,662.82	241.56	-635.93	679.94	1.42	-1.13	2.92
2,873.00	17.44	293.74	2,754.59	251.96	-662.10	708.10	1.50	0.77	4.38
2,968.00	19.00	300.24	2,844.83	265.49	-688.49	737.66	2.69	1.64	6.84
3,064.00	20.44	301.99	2,935.20	282.24	-716.21	769.69	1.62	1.50	1.82
3,159.00	21.69	300.12	3,023.85	299.84	-745.47	803.46	1.49	1.32	-1.97
3,254.00	20.50	298.87	3,112.48	316.68	-775.22	837.39	1.34	-1.25	-1.32
3,348.00	18.75	296.24	3,201.02	331.31	-803.19	868.83	2.08	-1.86	-2.80
3,444.00	18.38	299.37	3,292.03	345.55	-830.22	899.26	1.11	-0.39	3.26
3,539.00	18.50	300.74	3,382.15	360.60	-856.23	929.05	0.47	0.13	1.44
3,635.00	17.89	298.19	3,473.35	375.35	-882.31	958.80	1.04	-0.64	-2.66
3,730.00	17.88	293.49	3,563.77	388.06	-908.55	987.91	1.52	-0.01	-4.95
3,826.00	17.13	294.24	3,655.32	399.74	-934.96	1,016.77	0.82	-0.78	0.78
3,921.00	17.13	292.24	3,746.11	410.78	-960.67	1,044.75	0.62	0.00	-2.11
4,017.00	15.38	293.62	3,838.27	421.23	-985.42	1,071.62	1.87	-1.82	1.44
4,112.00	15.31	292.49	3,929.88	431.07	-1,008.55	1,096.75	0.32	-0.07	-1.19
4,207.00	14.88	293.99	4,021.60	440.83	-1,031.28	1,121.49	0.61	-0.45	1.58
4,303.00	15.44	302.87	4,114.27	452.78	-1,053.28	1,146.39	2.49	0.58	9.25
4,398.00	17.31	304.74	4,205.42	467.70	-1,075.52	1,172.65	2.04	1.97	1.97
4,493.00	17.25	298.24	4,296.14	482.42	-1,099.54	1,200.48	2.03	-0.06	-6.84
4,587.00	16.63	293.99	4,386.06	494.48	-1,124.11	1,227.80	1.47	-0.66	-4.52
4,683.00	15.81	292.24	4,478.24	505.02	-1,148.77	1,254.61	0.99	-0.85	-1.82
4,778.00	16.06	291.37	4,569.59	514.70	-1,172.98	1,280.69	0.36	0.26	-0.92
4,873.00	15.81	285.24	4,660.95	522.90	-1,197.71	1,308.66	1.79	-0.26	-6.45
4,968.00	14.38	284.87	4,752.67	529.32	-1,221.80	1,331.19	1.51	-1.51	-0.39

# Anadarko Petroleum Corp

## Survey Report

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UINTAH\_NBU 1022 8B PAD  
**Well:** NBU 1022-8C1CS  
**Wellbore:** NBU 1022-8C1CS  
**Design:** NBU 1022-8C1CS

**Local Co-ordinate Reference:** Well NBU 1022-8C1CS  
**TVD Reference:** 18' RKB + GL @ 5203.60ft (SST 54)  
**MD Reference:** 18' RKB + GL @ 5203.60ft (SST 54)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** edmp

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,063.00	12.81	289.49	4,845.00	535.87	-1,242.93	1,353.40	2.01	-1.65	4.86
5,159.00	10.69	287.37	4,938.99	542.08	-1,261.46	1,372.90	2.25	-2.21	-2.21
5,239.05	9.16	283.08	5,017.84	545.74	-1,274.75	1,386.58	2.12	-1.91	-5.36
<b>Intercept (NBU 1022-8C1CS)</b>									
5,240.28	9.14	283.00	5,019.05	545.78	-1,274.94	1,386.77	2.12	-1.88	-6.25
<b>NBU 1022-8C1CS (25' radius)</b>									
5,254.00	8.88	282.12	5,032.60	546.25	-1,277.04	1,388.89	2.12	-1.87	-6.45
5,350.00	7.69	274.49	5,127.60	548.31	-1,290.69	1,402.28	1.69	-1.24	-7.95
5,446.00	5.19	271.62	5,222.99	548.93	-1,301.43	1,412.44	2.62	-2.60	-2.99
5,541.00	3.75	238.12	5,317.71	547.41	-1,308.37	1,418.26	3.07	-1.52	-35.26
5,622.46	3.55	197.45	5,399.02	543.60	-1,311.39	1,419.59	3.12	-0.24	-49.94
<b>Driller's Target (NBU 1022-8C1CS)</b>									
5,636.00	3.69	191.12	5,412.53	542.77	-1,311.60	1,419.47	3.12	1.03	-46.70
5,731.00	4.00	146.87	5,507.34	536.99	-1,310.38	1,416.12	3.06	0.33	-46.58
5,827.00	3.00	145.12	5,603.16	532.13	-1,307.11	1,411.24	1.05	-1.04	-1.82
5,922.00	2.94	181.62	5,698.04	527.65	-1,305.76	1,408.27	1.96	-0.06	38.42
6,018.00	1.81	218.99	5,793.96	524.01	-1,306.78	1,407.82	1.94	-1.18	38.93
6,113.00	0.81	26.37	5,888.95	523.45	-1,307.43	1,408.20	2.74	-1.05	176.19
6,209.00	1.44	39.99	5,984.93	524.98	-1,306.35	1,407.80	0.71	0.66	14.19
6,304.00	1.19	50.37	6,079.91	526.53	-1,304.82	1,406.98	0.36	-0.26	10.93
6,400.00	1.13	50.74	6,175.89	527.76	-1,303.32	1,406.07	0.06	-0.06	0.39
6,496.00	1.06	53.87	6,271.87	528.88	-1,301.87	1,405.16	0.10	-0.07	3.26
6,591.00	2.06	51.62	6,366.83	530.46	-1,299.82	1,403.87	1.05	1.05	-2.37
6,686.00	1.88	55.49	6,461.78	532.40	-1,297.20	1,402.19	0.24	-0.19	4.07
6,780.00	2.00	62.24	6,555.72	534.04	-1,294.48	1,400.31	0.27	0.13	7.18
6,875.00	2.50	39.99	6,650.65	536.40	-1,291.68	1,398.63	1.05	0.53	-23.42
6,971.00	1.56	23.12	6,746.59	539.21	-1,289.82	1,397.99	1.15	-0.98	-17.57
7,066.00	1.44	347.62	6,841.56	541.56	-1,289.57	1,398.66	0.97	-0.13	-37.37
7,161.00	1.19	343.99	6,936.53	543.68	-1,290.10	1,399.96	0.28	-0.26	-3.82
7,257.00	0.94	356.24	7,032.52	545.42	-1,290.42	1,400.93	0.35	-0.26	12.76
7,352.00	1.06	26.49	7,127.50	546.99	-1,290.08	1,401.21	0.56	0.13	31.84
7,447.00	1.00	51.24	7,222.49	548.29	-1,289.04	1,400.76	0.47	-0.06	26.05
7,542.00	1.13	36.12	7,317.47	549.57	-1,287.85	1,400.14	0.32	0.14	-15.92
7,636.00	1.44	352.12	7,411.45	551.49	-1,287.46	1,400.52	1.07	0.33	-46.81
7,731.00	1.00	1.87	7,506.43	553.50	-1,287.60	1,401.42	0.51	-0.46	10.26
7,826.00	0.63	10.99	7,601.42	554.84	-1,287.47	1,401.81	0.41	-0.39	9.60
7,921.00	0.38	73.99	7,696.42	555.44	-1,287.07	1,401.67	0.60	-0.26	66.32
8,017.00	0.69	46.74	7,792.41	555.92	-1,286.34	1,401.19	0.41	0.32	-28.39
8,113.00	0.81	15.49	7,888.40	556.97	-1,285.74	1,401.03	0.44	0.13	-32.55
8,208.00	1.31	10.37	7,983.39	558.69	-1,285.37	1,401.35	0.54	0.53	-5.39
8,303.00	0.94	12.87	8,078.37	560.51	-1,285.00	1,401.71	0.39	-0.39	2.63
8,399.00	0.69	2.49	8,174.36	561.86	-1,284.80	1,402.04	0.30	-0.26	-10.81
8,494.00	0.69	354.62	8,269.35	563.00	-1,284.82	1,402.50	0.10	0.00	-8.28
8,581.00	0.69	321.87	8,366.35	563.93	-1,285.20	1,403.20	0.45	0.00	-37.64



# Anadarko Petroleum Corp

## Survey Report

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UINTAH\_NBU 1022 8B PAD  
**Well:** NBU 1022-8C1CS  
**Wellbore:** NBU 1022-8C1CS  
**Design:** NBU 1022-8C1CS

**Local Co-ordinate Reference:** Well NBU 1022-8C1CS  
**TVD Reference:** 18' RKB + GL @ 5203.60ft (SST 54)  
**MD Reference:** 18' RKB + GL @ 5203.60ft (SST 54)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** edmp

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,684.00	0.56	321.37	8,459.34	564.81	-1,285.89	1,404.18	0.13	-0.13	-0.49
8,779.00	0.56	334.74	8,554.34	565.60	-1,286.38	1,404.94	0.14	0.00	14.07
8,875.00	0.31	329.24	8,650.33	566.24	-1,286.72	1,405.49	0.26	-0.26	-5.73
8,973.00	0.25	338.74	8,748.33	566.67	-1,286.93	1,405.85	0.08	-0.06	9.69
9,067.00	0.19	13.74	8,842.33	567.01	-1,286.97	1,406.02	0.15	-0.06	37.23
9,258.00	0.19	206.24	9,033.33	567.04	-1,287.03	1,406.09	0.20	0.00	-87.70
9,354.00	0.31	164.87	9,129.33	566.64	-1,287.03	1,405.94	0.22	0.13	-43.09
9,449.00	0.25	170.62	9,224.33	566.19	-1,286.93	1,405.67	0.07	-0.06	6.05
9,544.00	0.75	120.37	9,319.33	565.67	-1,286.36	1,404.95	0.65	0.53	-52.89
9,640.00	0.69	127.37	9,415.32	565.00	-1,285.36	1,403.76	0.11	-0.06	7.29
9,735.00	0.81	125.99	9,510.31	564.26	-1,284.36	1,402.56	0.13	0.13	-1.45
9,831.00	1.25	123.74	9,606.29	563.28	-1,282.94	1,400.87	0.46	0.46	-2.34
9,926.00	1.63	132.24	9,701.26	561.80	-1,281.08	1,398.58	0.46	0.40	8.95
10,021.00	1.50	128.37	9,796.23	560.12	-1,279.11	1,396.11	0.18	-0.14	-4.07
10,116.00	1.81	125.12	9,891.19	558.48	-1,276.90	1,393.45	0.34	0.33	-3.42
10,212.00	1.75	128.74	9,987.14	556.69	-1,274.52	1,390.57	0.13	-0.06	3.77
10,306.00	2.00	125.99	10,081.09	554.83	-1,272.07	1,387.59	0.28	0.27	-2.93
10,374.00	1.98	126.02	10,149.05	553.44	-1,270.16	1,385.30	0.03	-0.03	0.04
<b>LAST SVY</b>									
10,434.00	1.98	126.02	10,209.02	552.22	-1,268.49	1,383.28	0.00	0.00	0.00

PROJECTION - NBU 1022-8C1CS (100' radius) BHL

### Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
10,374.00	10,149.05	553.44	-1,270.16	LAST SVY
10,434.00	10,209.02	552.22	-1,268.49	PROJECTION

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



# **US ROCKIES REGION PLANNING**

**UTAH - UTM (feet), NAD27, Zone 12N**

**UINTAH\_NBU 1022-8B PAD**

**NBU 1022-8C1CS**

**NBU 1022-8C1CS**

**Design: NBU 1022-8C1CS**

## **Survey Report - Geographic**

**02 April, 2012**

# Anadarko Petroleum Corp

## Survey Report - Geographic

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UINTAH\_NBU 1022-8B PAD  
**Well:** NBU 1022-8C1CS  
**Wellbore:** NBU 1022-8C1CS  
**Design:** NBU 1022-8C1CS

**Local Co-ordinate Reference:** Well NBU 1022-8C1CS  
**TVD Reference:** 18' RKB + GL @ 5203.60ft (SST 54)  
**MD Reference:** 18' RKB + GL @ 5203.60ft (SST 54)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** edmp

**Project** UTAH - UTM (feet), NAD27, Zone 12N

**Map System:** Universal Transverse Mercator (US Survey Feet) **System Datum:** Mean Sea Level  
**Geo Datum:** NAD 1927 (NADCON CONUS)  
**Map Zone:** Zone 12N (114 W to 108 W)

**Site** UINTAH\_NBU 1022-8B PAD

**Site Position:** Northing: 14,518,172.28 usft Latitude: 39.968147  
**From:** Lat/Long Easting: 2,071,981.26 usft Longitude: -109.459767  
**Position Uncertainty:** 0.00 ft Slot Radius: 13-3/16 " Grid Convergence: 0.99 °

**Well** NBU 1022-8C1CS

**Well Position** +N/-S 0.00 ft Northing: 14,518,172.28 usft Latitude: 39.968147  
 +E/-W 0.00 ft Easting: 2,071,981.26 usft Longitude: -109.459767  
**Position Uncertainty** 0.00 ft Wellhead Elevation: ft Ground Level: 5,185.60 ft

**Wellbore** NBU 1022-8C1CS

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/12/2012	10.96	65.83	52,242

**Design** NBU 1022-8C1CS

**Audit Notes:**

**Version:** 1.0 **Phase:** ACTUAL **Tie On Depth:** 9.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	9.00	0.00	0.00	292.56

**Survey Program** Date 3/29/2012

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
245.00	2,519.00	Survey #1 (NBU 1022-8C1CS)	MWD	MWD - STANDARD
2,586.00	10,434.00	Survey #2 (NBU 1022-8C1CS)	MWD	MWD - STANDARD

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9.00	0.00	0.00	9.00	0.00	0.00	14,518,172.28	2,071,981.26	39.968147	-109.459767
245.00	1.06	284.18	244.99	-0.22	-2.17	14,518,172.03	2,071,979.09	39.968146	-109.459775
337.00	2.20	258.74	336.95	-0.65	-4.75	14,518,171.55	2,071,976.52	39.968145	-109.459784
427.00	3.17	264.62	426.85	-1.22	-8.92	14,518,170.91	2,071,972.36	39.968144	-109.459799
521.00	3.96	277.72	520.67	-1.03	-14.73	14,518,171.00	2,071,966.55	39.968144	-109.459820
614.00	5.36	287.65	613.38	0.72	-22.05	14,518,172.62	2,071,959.20	39.968149	-109.459846
709.00	6.94	288.92	707.81	3.92	-31.71	14,518,175.66	2,071,949.49	39.968158	-109.459880
803.00	8.18	286.95	800.99	7.72	-43.48	14,518,179.25	2,071,937.66	39.968168	-109.459922
897.00	9.94	289.32	893.81	12.35	-57.53	14,518,183.64	2,071,923.52	39.968181	-109.459973
991.00	11.64	290.01	986.15	18.28	-74.10	14,518,189.28	2,071,906.86	39.968197	-109.460032
1,084.00	13.28	291.87	1,076.96	25.47	-92.83	14,518,196.15	2,071,888.01	39.968217	-109.460099

# Anadarko Petroleum Corp

## Survey Report - Geographic

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UINTAH\_NBU 1022-8B PAD  
**Well:** NBU 1022-8C1CS  
**Wellbore:** NBU 1022-8C1CS  
**Design:** NBU 1022-8C1CS

**Local Co-ordinate Reference:** Well NBU 1022-8C1CS  
**TVD Reference:** 18' RKB + GL @ 5203.60ft (SST 54)  
**MD Reference:** 18' RKB + GL @ 5203.60ft (SST 54)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** edmp

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,176.00	15.04	292.93	1,166.16	34.06	-113.63	14,518,204.37	2,071,867.06	39.968241	-109.460173
1,271.00	17.52	292.60	1,257.34	44.36	-138.19	14,518,214.25	2,071,842.33	39.968269	-109.460260
1,365.00	20.67	291.13	1,346.16	55.78	-166.73	14,518,225.17	2,071,813.59	39.968300	-109.460362
1,460.00	23.56	291.02	1,434.16	68.63	-200.10	14,518,237.45	2,071,780.00	39.968336	-109.460481
1,555.00	24.84	292.08	1,520.81	82.94	-236.31	14,518,251.14	2,071,743.55	39.968375	-109.460611
1,650.00	25.24	291.69	1,606.88	97.93	-273.63	14,518,265.48	2,071,705.98	39.968416	-109.460744
1,746.00	24.71	294.86	1,693.91	113.93	-310.85	14,518,280.83	2,071,668.49	39.968460	-109.460876
1,841.00	24.36	297.06	1,780.33	131.19	-346.32	14,518,297.48	2,071,632.73	39.968507	-109.461003
1,934.00	22.69	296.00	1,865.60	147.78	-379.52	14,518,313.49	2,071,599.24	39.968553	-109.461122
2,029.00	19.79	294.86	1,954.14	162.58	-410.59	14,518,327.75	2,071,567.92	39.968593	-109.461232
2,123.00	19.61	293.89	2,042.64	175.66	-439.45	14,518,340.33	2,071,538.84	39.968629	-109.461335
2,217.00	19.52	291.52	2,131.21	187.81	-468.48	14,518,351.97	2,071,509.60	39.968663	-109.461439
2,312.00	18.82	288.88	2,220.94	198.59	-497.75	14,518,362.25	2,071,480.16	39.968692	-109.461543
2,408.00	18.55	288.39	2,311.88	208.42	-526.89	14,518,371.57	2,071,450.85	39.968719	-109.461647
2,502.00	18.47	287.65	2,401.02	217.65	-555.27	14,518,380.31	2,071,422.32	39.968745	-109.461749
2,519.00	18.55	287.12	2,417.14	219.26	-560.42	14,518,381.83	2,071,417.14	39.968749	-109.461767
2,586.00	18.10	284.14	2,480.74	224.94	-580.70	14,518,387.16	2,071,396.77	39.968765	-109.461839
2,682.00	17.77	286.77	2,572.08	232.81	-609.18	14,518,394.54	2,071,368.15	39.968786	-109.461941
2,777.00	16.70	289.54	2,662.82	241.56	-635.93	14,518,402.82	2,071,341.25	39.968810	-109.462036
2,873.00	17.44	293.74	2,754.59	251.96	-662.10	14,518,412.78	2,071,314.91	39.968839	-109.462130
2,968.00	19.00	300.24	2,844.83	265.49	-688.49	14,518,425.84	2,071,288.28	39.968876	-109.462224
3,064.00	20.44	301.99	2,935.20	282.24	-716.21	14,518,442.11	2,071,260.28	39.968922	-109.462323
3,159.00	21.69	300.12	3,023.85	299.84	-745.47	14,518,459.20	2,071,230.72	39.968970	-109.462427
3,254.00	20.50	298.87	3,112.48	316.68	-775.22	14,518,475.53	2,071,200.68	39.969017	-109.462534
3,348.00	18.75	296.24	3,201.02	331.31	-803.19	14,518,489.67	2,071,172.47	39.969057	-109.462633
3,444.00	18.38	299.37	3,292.03	345.55	-830.22	14,518,503.44	2,071,145.20	39.969096	-109.462730
3,539.00	18.50	300.74	3,382.15	360.60	-856.23	14,518,518.04	2,071,118.93	39.969137	-109.462823
3,635.00	17.89	298.19	3,473.35	375.35	-882.31	14,518,532.34	2,071,092.60	39.969178	-109.462916
3,730.00	17.88	293.49	3,563.77	388.06	-908.55	14,518,544.59	2,071,066.14	39.969213	-109.463009
3,826.00	17.13	294.24	3,655.32	399.74	-934.96	14,518,555.81	2,071,039.54	39.969245	-109.463104
3,921.00	17.13	292.24	3,746.11	410.78	-960.67	14,518,566.41	2,071,013.64	39.969275	-109.463195
4,017.00	15.38	293.62	3,838.27	421.23	-985.42	14,518,576.43	2,070,988.71	39.969304	-109.463284
4,112.00	15.31	292.49	3,929.88	431.07	-1,008.55	14,518,585.88	2,070,965.42	39.969331	-109.463366
4,207.00	14.88	293.99	4,021.60	440.83	-1,031.28	14,518,595.24	2,070,942.52	39.969357	-109.463447
4,303.00	15.44	302.87	4,114.27	452.78	-1,053.28	14,518,606.81	2,070,920.32	39.969390	-109.463526
4,398.00	17.31	304.74	4,205.42	467.70	-1,075.52	14,518,621.34	2,070,897.83	39.969431	-109.463605
4,493.00	17.25	298.24	4,296.14	482.42	-1,099.54	14,518,635.64	2,070,873.55	39.969472	-109.463691
4,587.00	16.63	293.99	4,386.06	494.48	-1,124.11	14,518,647.28	2,070,848.78	39.969505	-109.463778
4,683.00	15.81	292.24	4,478.24	505.02	-1,148.77	14,518,657.39	2,070,823.94	39.969534	-109.463866
4,778.00	16.06	291.37	4,569.59	514.70	-1,172.98	14,518,666.65	2,070,799.56	39.969560	-109.463953
4,873.00	15.81	285.24	4,660.95	522.90	-1,197.71	14,518,674.42	2,070,774.70	39.969583	-109.464041
4,968.00	14.38	284.87	4,752.67	529.32	-1,221.60	14,518,680.43	2,070,750.70	39.969600	-109.464126
5,063.00	12.81	289.49	4,845.00	535.87	-1,242.93	14,518,686.60	2,070,729.26	39.969618	-109.464202
5,159.00	10.69	287.37	4,938.99	542.08	-1,261.46	14,518,692.49	2,070,710.63	39.969635	-109.464269
5,239.05	9.16	283.08	5,017.84	545.74	-1,274.75	14,518,695.92	2,070,697.27	39.969645	-109.464316
<b>Intercept (NBU 1022-8C1CS)</b>									
5,240.28	9.14	283.00	5,019.05	545.78	-1,274.94	14,518,695.96	2,070,697.08	39.969646	-109.464317
<b>NBU 1022-8C1CS (25' radius)</b>									
5,254.00	8.88	282.12	5,032.60	546.25	-1,277.04	14,518,696.39	2,070,694.98	39.969647	-109.464324
5,350.00	7.69	274.49	5,127.60	548.31	-1,290.69	14,518,698.22	2,070,681.29	39.969652	-109.464373
5,446.00	5.19	271.62	5,222.99	548.93	-1,301.43	14,518,698.66	2,070,670.54	39.969654	-109.464411
5,541.00	3.75	238.12	5,317.71	547.41	-1,308.37	14,518,697.02	2,070,663.63	39.969650	-109.464436
5,622.46	3.55	197.45	5,399.02	543.60	-1,311.39	14,518,693.15	2,070,660.68	39.969640	-109.464447
<b>Driller's Target (NBU 1022-8C1CS)</b>									
5,636.00	3.69	191.12	5,412.53	542.77	-1,311.60	14,518,692.32	2,070,660.49	39.969637	-109.464448

# Anadarko Petroleum Corp

## Survey Report - Geographic

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-8C1CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	18' RKB + GL @ 5203.60ft (SST 54)
<b>Site:</b>	UINTAH_NBU 1022-8B PAD	<b>MD Reference:</b>	18' RKB + GL @ 5203.60ft (SST 54)
<b>Well:</b>	NBU 1022-8C1CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 1022-8C1CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 1022-8C1CS	<b>Database:</b>	edmp

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,731.00	4.00	146.87	5,507.34	536.99	-1,310.38	14,518,686.57	2,070,661.81	39.969621	-109.464443
5,827.00	3.00	145.12	5,603.16	532.13	-1,307.11	14,518,681.76	2,070,665.16	39.969608	-109.464431
5,922.00	2.94	181.62	5,698.04	527.65	-1,305.76	14,518,677.31	2,070,666.59	39.969596	-109.464427
6,018.00	1.81	218.99	5,793.96	524.01	-1,306.78	14,518,673.65	2,070,665.63	39.969586	-109.464430
6,113.00	0.81	26.37	5,888.95	523.45	-1,307.43	14,518,673.08	2,070,664.99	39.969584	-109.464433
6,209.00	1.44	39.99	5,984.93	524.98	-1,306.35	14,518,674.63	2,070,666.04	39.969588	-109.464429
6,304.00	1.19	50.37	6,079.91	526.53	-1,304.82	14,518,676.20	2,070,667.54	39.969593	-109.464423
6,400.00	1.13	50.74	6,175.89	527.76	-1,303.32	14,518,677.46	2,070,669.02	39.969596	-109.464418
6,496.00	1.06	53.87	6,271.87	528.88	-1,301.87	14,518,678.60	2,070,670.45	39.969599	-109.464413
6,591.00	2.06	51.62	6,366.83	530.46	-1,299.82	14,518,680.22	2,070,672.47	39.969603	-109.464405
6,686.00	1.88	55.49	6,461.78	532.40	-1,297.20	14,518,682.21	2,070,675.06	39.969609	-109.464396
6,780.00	2.00	62.24	6,555.72	534.04	-1,294.48	14,518,683.89	2,070,677.75	39.969613	-109.464386
6,875.00	2.50	39.99	6,650.65	536.40	-1,291.68	14,518,686.30	2,070,680.51	39.969620	-109.464376
6,971.00	1.56	23.12	6,746.59	539.21	-1,289.82	14,518,689.13	2,070,682.32	39.969627	-109.464370
7,066.00	1.44	347.62	6,841.56	541.56	-1,289.57	14,518,691.49	2,070,682.53	39.969634	-109.464369
7,161.00	1.19	343.99	6,936.53	543.68	-1,290.10	14,518,693.60	2,070,681.97	39.969640	-109.464371
7,257.00	0.94	356.24	7,032.52	545.42	-1,290.42	14,518,695.34	2,070,681.61	39.969645	-109.464372
7,352.00	1.06	26.49	7,127.50	546.99	-1,290.08	14,518,696.91	2,070,681.92	39.969649	-109.464371
7,447.00	1.00	51.24	7,222.49	548.29	-1,289.04	14,518,698.23	2,070,682.94	39.969652	-109.464367
7,542.00	1.13	36.12	7,317.47	549.57	-1,287.85	14,518,699.53	2,070,684.12	39.969656	-109.464363
7,636.00	1.44	352.12	7,411.45	551.49	-1,287.46	14,518,701.45	2,070,684.47	39.969661	-109.464361
7,731.00	1.00	1.87	7,506.43	553.50	-1,287.60	14,518,703.46	2,070,684.30	39.969667	-109.464362
7,826.00	0.63	10.99	7,601.42	554.84	-1,287.47	14,518,704.80	2,070,684.40	39.969670	-109.464361
7,921.00	0.38	73.99	7,696.42	555.44	-1,287.07	14,518,705.41	2,070,684.79	39.969672	-109.464360
8,017.00	0.69	46.74	7,792.41	555.92	-1,286.34	14,518,705.91	2,070,685.51	39.969673	-109.464357
8,113.00	0.81	15.49	7,888.40	556.97	-1,285.74	14,518,706.97	2,070,686.09	39.969676	-109.464355
8,208.00	1.31	10.37	7,983.39	558.69	-1,285.37	14,518,708.69	2,070,686.44	39.969681	-109.464354
8,303.00	0.94	12.87	8,078.37	560.51	-1,285.00	14,518,710.52	2,070,686.78	39.969686	-109.464353
8,399.00	0.69	2.49	8,174.36	561.86	-1,284.80	14,518,711.87	2,070,686.95	39.969690	-109.464352
8,494.00	0.69	354.62	8,269.35	563.00	-1,284.82	14,518,713.01	2,070,686.90	39.969693	-109.464352
8,581.00	0.69	321.87	8,366.35	563.93	-1,285.20	14,518,713.94	2,070,686.52	39.969695	-109.464353
8,684.00	0.56	321.37	8,459.34	564.81	-1,285.89	14,518,714.81	2,070,685.80	39.969698	-109.464356
8,779.00	0.56	334.74	8,554.34	565.60	-1,286.38	14,518,715.58	2,070,685.30	39.969700	-109.464358
8,875.00	0.31	329.24	8,650.33	566.24	-1,286.72	14,518,716.22	2,070,684.96	39.969702	-109.464359
8,973.00	0.25	338.74	8,748.33	566.67	-1,286.93	14,518,716.64	2,070,684.74	39.969703	-109.464359
9,067.00	0.19	13.74	8,842.33	567.01	-1,286.97	14,518,716.99	2,070,684.69	39.969704	-109.464360
9,258.00	0.19	206.24	9,033.33	567.04	-1,287.03	14,518,717.01	2,070,684.63	39.969704	-109.464360
9,354.00	0.31	164.87	9,129.33	566.64	-1,287.03	14,518,716.62	2,070,684.63	39.969703	-109.464360
9,449.00	0.25	170.62	9,224.33	566.19	-1,286.93	14,518,716.16	2,070,684.74	39.969702	-109.464359
9,544.00	0.75	120.37	9,319.33	565.67	-1,286.36	14,518,715.66	2,070,685.32	39.969700	-109.464357
9,640.00	0.69	127.37	9,415.32	565.00	-1,285.36	14,518,715.00	2,070,686.33	39.969698	-109.464354
9,735.00	0.81	125.99	9,510.31	564.26	-1,284.36	14,518,714.28	2,070,687.34	39.969696	-109.464350
9,831.00	1.25	123.74	9,606.29	563.28	-1,282.94	14,518,713.32	2,070,688.78	39.969694	-109.464345
9,926.00	1.63	132.24	9,701.26	561.80	-1,281.08	14,518,711.87	2,070,690.67	39.969690	-109.464339
10,021.00	1.50	128.37	9,796.23	560.12	-1,279.11	14,518,710.23	2,070,692.67	39.969685	-109.464332
10,116.00	1.81	125.12	9,891.19	558.48	-1,276.90	14,518,708.63	2,070,694.90	39.969680	-109.464324
10,212.00	1.75	128.74	9,987.14	556.69	-1,274.52	14,518,706.88	2,070,697.32	39.969676	-109.464315
10,306.00	2.00	125.99	10,081.09	554.83	-1,272.07	14,518,705.06	2,070,699.79	39.969670	-109.464306
10,374.00	1.98	126.02	10,149.05	553.44	-1,270.16	14,518,703.71	2,070,701.73	39.969667	-109.464300
LAST SVY									
10,434.00	1.98	126.02	10,209.02	552.22	-1,268.49	14,518,702.52	2,070,703.43	39.969663	-109.464294
PROJECTION - NBU 1022-8C1CS (100' radius) BHL									

# Anadarko Petroleum Corp

## Survey Report - Geographic

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-8C1CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	18' RKB + GL @ 5203.60ft (SST 54)
<b>Site:</b>	UINTAH_NBU 1022-8B PAD	<b>MD Reference:</b>	18' RKB + GL @ 5203.60ft (SST 54)
<b>Well:</b>	NBU 1022-8C1CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 1022-8C1CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 1022-8C1CS	<b>Database:</b>	edmp

### Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
10,374.00	10,149.05	553.44	-1,270.16	LAST SVY
10,434.00	10,209.02	552.22	-1,268.49	PROJECTION

Checked By: _____	Approved By: _____	Date: _____
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